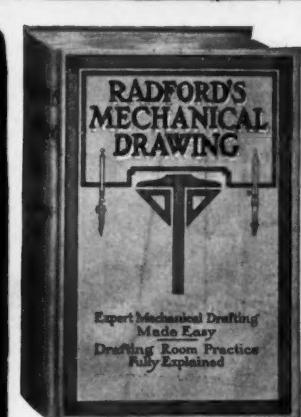




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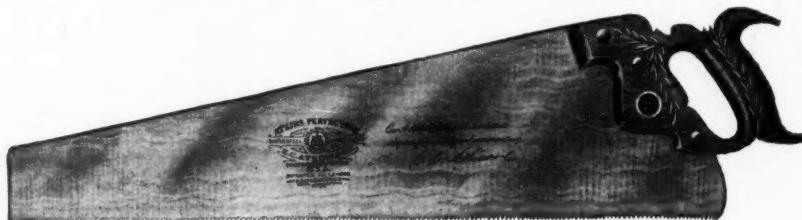
ATKINS *Silver Steel* SAWS

Are you "on the fence?" Beginning to think that perhaps we are right after all and that an ATKINS SILVER STEEL SAW will be best for you. Then why not try them? Don't stand in your own light. A trial will convince you that these Famous Saws are

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Atkins Famous Skew Back SILVER STEEL, Hand, Rip or Panel. Truly a Mechanic's Saw, bearing the name of its maker.



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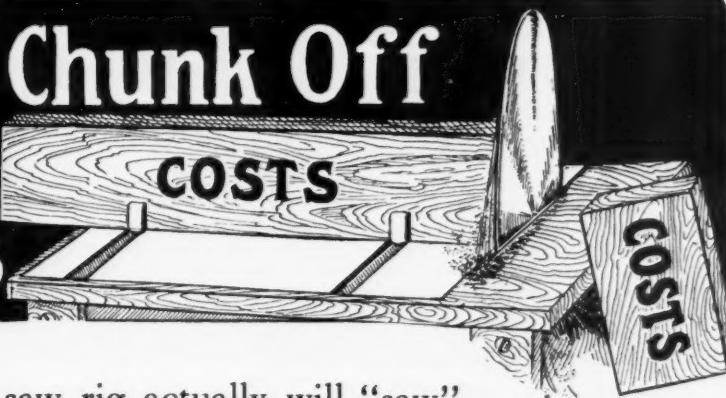
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INDIANAPOLIS, - - - IND.

Saws a Big Chunk Off Your Wood-working Costs



THIS handy little saw rig actually will "saw" six men's wages out of your pay-roll every week. And its work will be truer and better all around. It requires but one gallon of gasoline a week (16 cents) and is so simple everybody on the job can use it. The



"EVEREADY" Portable Saw Rig *GUARANTEED FOR LIFE*

is used right out on the job—basement, ground floor or any other floor—not just in some shop a mile away. There will not be an hour in the eight that someone won't be doing on it, with the greatest ease and dispatch, work that it would take six times longer to do by hand. Take a look at the picture below. Honestly, isn't it the

trimmest, neatest, most business-like little rig you ever saw? And it is just as good as it looks.

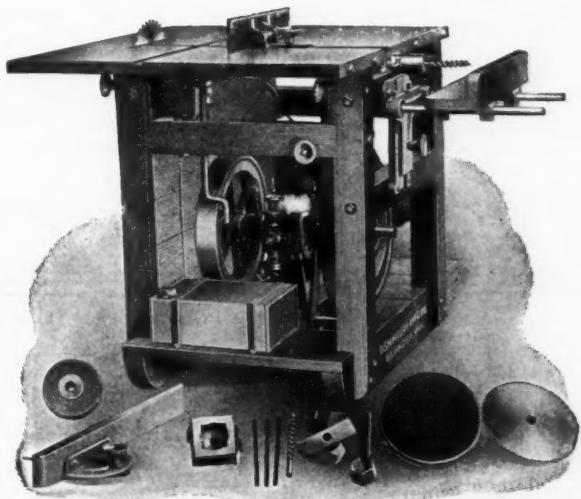
The "Eveready" is a whole planing mill in itself—for, besides a cross-cut and a rip saw, you get

All These Attachments FREE

Jointer Head
Saw Gauge and Mitre Device
Sander

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Boring Attachment
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Try It A Week FREE

We will gladly send the "Eveready" to you and let you try it under every condition your line of work makes necessary. When you receive it, try it in your shop and on your job, using all the attachments. Then, if you don't think it will cut deep into your present costs, don't keep it. Write now for full details of the offer.

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316 South Main St. - OSHKOSH, WIS.
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The American Floor Surfacing Machine

IS NO EXPERIMENT. Its work since 1903 has established a standard for finely surfaced and polished floors. It is the only machine whose work is specified by leading architects and used in the best government buildings and will surface and polish any kind of a floor from common pine to the finest parquetry.

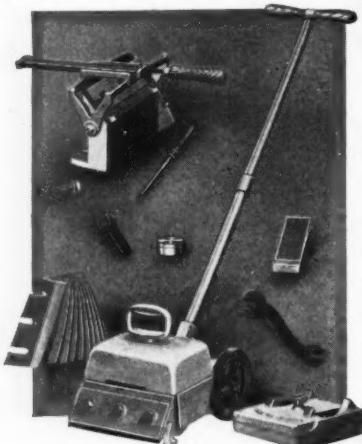
IT IS THE ORIGINAL and only two-roll, self propelled, dust collecting machine, that surfaces close to the wall and can be used in small rooms. Anyone can operate it.

ITS WORK IS RAPID, regular smooth and even because the power that drives the rolls, also propels the machine at the same ratio of speed. It has surfaced and polished millions of square feet of the best floors in America and Europe.

GET A MACHINE that does first class work and in paying quantities, that is fully guaranteed and sold on its merits. Don't be fooled with an imitation.

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Manufactured By **The American Floor Surfacing Machine Co., TOLEDO, O.**



Try It—But Don't Buy It—

until you have convinced yourself, by actually working with the machines, that they are satisfactory in every particular. In order that you may know just what the

Acme Floor Scraping Outfit

can do on your own flooring, I want to send the same to you on a WEEK'S FREE TRIAL. Thousands of carpenters and contractors have accepted this offer and if you haven't done so, get busy and write for full particulars and catalog to-day.

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A Scraper That Scrapes Any Wood Floor In a Jiffy

ADJUSTABLE WEIGHT
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RUBBER TIRES
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RUNS EASY
PRICE COMPLETE \$22.50
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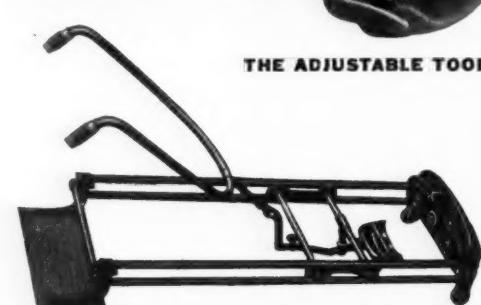
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The Boss self adjusting Floor Scraper
The knife will adjust itself to any floor.
The knife is attached to the shaft, which lets it give in Frame.
The Boss is the only Floor Scraper made that will plane a Floor without leaving a square cut.
The Boss can be set for any thickness of shaving. It also can be set for any shearing, right or left, up or down, to suit the kind of lumber.

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You May Try This Haven Planing Floor Scraper at Our Risk

We will guarantee you absolutely against expense if you are not entirely satisfied with the work of the Haven Planing Floor Scraper after having it for one week.

The "Haven" is the only practical floor finishing machine. It eliminates all of the defects of other floor machines. It will appeal to your common sense because its tool is merely a scraping plane, such as you have always known. The angle of blade and thickness of cut are each regulated by a small screw in the usual way. Because the tool is a true plane, it prevents chattering, gouging and "waves". It planes and scrapes at the same time. It also does away with the man-killing toil of pulling a heavy weight. The most simple, easy and rapid machine on the market and solves the problem permanently.

Don't pay exorbitant prices for an inferior machine, when you can get the best on earth for \$25.85. Send for catalogue and complete particulars to learn how we can make this wonderful proposition on a guaranteed machine.

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The Haven Planing Floor Scraper

When Writing Advertisers Please Mention the American Carpenter and Builder.

If What We Say Is True---

If our Floor Scraper is the most perfect made today—

If we do sell it *without a fancy price*—

You ought to know about it. Ask us.

We have a special proposition for you.

Fox Supply Co.

Manufacturers

Dept. A

Brooklyn,
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Rapidly Replacing Installed Plants

The Hoover Electric Suction Sweeper combines the desirable features of the vacuum cleaner, broom and carpet sweeper with none of their faults.

Injury is impossible, for the powerful suction lifts the floor-covering $\frac{1}{4}$ inch off the floor while the machine airs, sweeps, shakes and suction cleans it.

Its soft hair brush (electrically revolved) sweeps up hair, thread and lint, etc., and shakes loose embedded sand and grit to make its removal possible by the powerful suction.

It prolongs the life of floor-coverings and restores their original colorings by brushing up the crushed down nap to its intended position.

The only mechanical cleaner that robs the weekly cleaning day of its nerve wrecking, back breaking work and that greatly reduces the labor and expense of keeping the home clean and sanitary.

Whenever you are called upon to specify for home, office, church or public building, you should withhold your decision until you have fully investigated the three sizes in the Hoover line.

Hose and nozzle tools are supplied, if wanted, for every air cleaning purpose.

Write today for our interesting and instructive booklet.

Sold by the best dealers everywhere.



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Dept. C

Save \$12 per 1000 Ft. On Hardwood Flooring

BY using the "Weber." The saving in time over hand work is often more than that. A couple of ordinary jobs actually save the purchase price. And the work has never been excelled.

The WEBER DOUBLE ACTING Floor Scraper

Scrapes Both Ways

—forward or backward. Double knife scrapes centers of smallest rooms perfectly; reaches well into baseboard angles. Works perfectly at any angle on all flooring, any way of grain. "Shears" without side-draft, and

FREE TRIAL

—use it five days hard. Then put it up against any other make. If its work isn't the best you've ever seen, return it. Write for details.

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Can't Leave Waves in the Floor



Scrape Your Floors With this LITTLE GIANT—

*You Can Try It
At Our
Expense*



A floor scraper is now a necessity with every builder. In this Little Giant you get a floor scraper you can always depend upon to do its work properly. It is easy to operate. Scrapes floors rapidly, perfectly and economically. We'll let you try this Little Giant before you buy it—a fair proposition—and you can prove to yourself just what it can do. Write us NOW for our special offer for YOU.

The THOR Electric Home Laundry Machine

should be in every home. This machine does away with all laundry troubles. Home owners and builders appreciate their convenience and usefulness and it is good policy on your part to install them for your clients. There are now more than 51,000 in use. Sizes, designs and prices to meet every requirement. Sold on liberal FREE TRIAL EASY PAYMENT Plan.

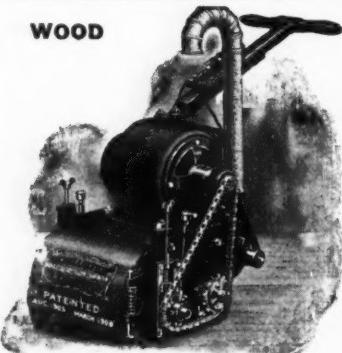
You ought to have our circular matter describing our Little Giant Scrapers and THOR Washing Machines. Write for this NOW.



Hurley Machine Company

New York 1008 Flat Iron Building

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WOOD

Made in three sizes:
8 x 18, 8 x 15 and 8 x 12 in. Flexible Roller.
Edge Roller easily adjusted to either side.

FREE TRIAL

**Perfect Results Are Easily Obtained By
Using Schlueter Rapid Floor Scraper**

This machine is built on the only correct principle. It is guaranteed to be The Best machine with which to produce an even, smooth surface on any kind of large or small wood floor, old or new, hard or soft, and in all buildings: Residences, Stores, Factories, Bowling Alleys, Roller Skating Rinks, Reception and Dance Halls, etc.

The Schlueter will remove all joints or warped edges, and oil, wax, lime stains, or the "muck" from skate wheels, in a most satisfactory manner.

(Earning capacity \$20.00 to \$25.00 per day.)

Send for prices and FREE TRIAL PROPOSITION.

M. L. SCHLUETER, Chicago, Ill.
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Rapid and Flexible Stone Floor Surfer for Concrete with Terazzo, Mosaic Tile, Cement, etc.

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to use and sell

the RAPID FLOOR SCRAPER

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USE IT FIRST— THEN PAY US



Saves its cost in 10 days.

Send for our special proposition and catalog.

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Metal Frame REWIRABLE CIN-MAN-CO.

See method of "securing wire cloth, held by rounded corners, which prevents cutting by vibration.

Special inducements to Carpenters and Builders
Booklet Free

The Cincinnati Fly Screen Co.
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TRADE  **MARK**

Height of Cut . . .	6"
Width of Cut . . .	12 $\frac{1}{2}$ "
Size Bed . . .	18 $\frac{1}{2}$ "x39"
Weight . . .	420 lbs.
Price . . .	\$90.00
F. O. B. Grand Rapids	



6-E Universal Wood Trimmer

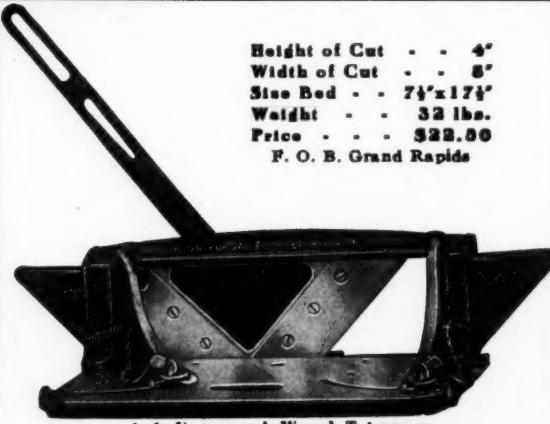
Bench and Floor Type

Universal

Wood

Trimmers

To Meet Every Demand



4-A Universal Wood Trimmer

Height of Cut . . .	4"
Width of Cut . . .	8"
Size Bed . . .	7 $\frac{1}{2}$ "x17 $\frac{1}{2}$ "
Weight . . .	32 lbs.
Price . . .	\$28.50
F. O. B. Grand Rapids	

EVERY PATTERN SHOP, INTERIOR FINISH MILL, FURNITURE FACTORY, and others doing work requiring perfect glue joints and angles should have our Trimmers or Miter Machines to produce the best results.

WRITE TODAY FOR COMPLETE CATALOG OF OUR TOOLS

FOX MACHINE CO.

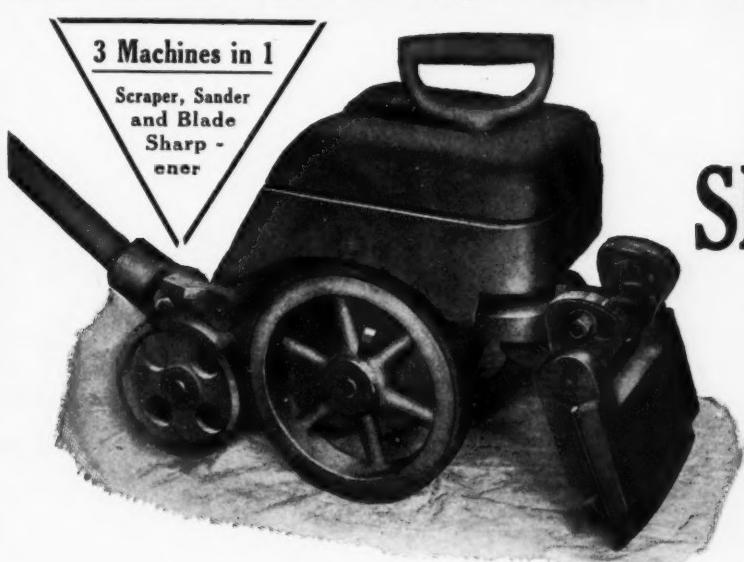
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GRAND RAPIDS, MICHIGAN
30 Church Street, New York
J. B. STONE & CO.,
135 Finsbury Pavement, E. C.

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"To Keep the Dollars Coming In During the Winter Months"

You Should Get a

SPRING-DRIVEN TRIPLE "A" FLOOR SMOOTHER



3 Machines in 1
Scraper, Sander
and Blade
Sharpener

The Triple "A" Does the Work of Six Men

You can do six times as much work with the Triple "A" as can be done by hand.—It is the only hand power machine on the Market that is positively guaranteed to satisfactorily scrape and finish old, new and varnished floors. The Triple "A" has Weight, Power and Adjustability and there is no expense for fuel or current. The Triple "A" Floor Smoother will often pay for itself on the first job.

Try the Triple "A"—Then Decide

Let us send you a Triple "A"—Test it—Do your next job of floor surfacing the "Triple 'A' Way." Then decide—Judge for yourself—We guarantee each machine to do exactly what we claim for it. If, after a thorough trial, you are not satisfied, we will take back the machine and refund any money you have paid us.

Get Our Easy Plans of Payment

Send today for full information. Let us tell you how easy we will make it for you to own a Triple "A." We have several easy plans of payment to select from. Send the coupon now. Get a Triple "A." Let us help you "Keep the Dollars Coming in During the Winter Season," on Rainy Days, and every Day in the Year.

Triple "A" Machine Co.

1016 Chicago Opera House - CHICAGO, ILL.

Every Contractor and every Carpenter can keep "money coming in during the Winter Months" by surfacing new and resurfacing old and varnished floors. You have often expressed the desire for "something to do" during the Winter Season. Here's your opportunity. There are many floors in your neighborhood, such as Bowling Alleys, Dance Halls, Drill Rooms, Flat Buildings and Residences, that need resurfacing, that are rough and unsightly; or new floors that have worked out of shape in the seasoning process.

The Spring-Driven Triple "A" Floorsmoothier will not only keep the Dollars coming in during the Winter Season, but also on rainy days. You can send a man around at odd times to resurface (that is, scrape and sandpaper perfectly) 200 square feet of new floors or about half that much of old floors per hour. This will bring you in a nice little income and you can

Increase Your Earnings From \$15.00 to \$30.00 per Day

The Triple "A" will keep you busy all the year round, not only during the Winter Season and Rainy Days, but the resurfacing of floors can be made a permanent business, one that will pay you a handsome profit on your investment. Just write us a letter or mail the coupon, and we will tell you all about our money making offer. In fact, we will make it so easy for you to own a Triple "A," you will wonder why you haven't written before.

Send Us Your Name

We have prepared a Folder for you which fully explains how to do this work properly and artistically, and also the prices that you should charge for floor surfacing. Our literature contains convincing evidence and tells you in a straightforward manner just what others have accomplished with the Triple "A" and what you can do.

Money Making Coupon

Triple "A" Machine Co.
1016 Opera House Block
Chicago, Ill.

Write a Postal
or Letter or
Mail Coupon
Today.

Mail The Coupon To-Day

Gentlemen. Without any obligation on my part please explain how I can "Keep the dollars coming in during the Winter Season" by using a Triple "A" Floorsmoothier.

Name

Address

State

FOUR MACHINES FOR THE COST OF ONE

139.50

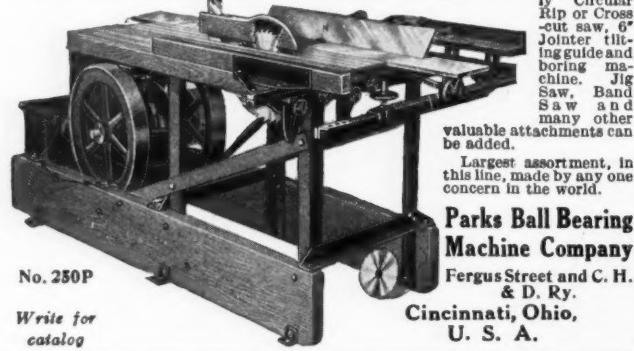
A Band Saw—A Saw Bench—An 8 Inch Jointer and Planer—A Mortiser and Borer—all in one machine for only \$139.50.

Here's big value for you. A real woodworking equipment for only \$139.50. This type "C" Universal Woodworker is a substantial, portable, easy-to-operate, all cast iron machine, that represents the best investment you can make. In this type "C" Woodworker you get FOUR distinct machines in ONE Band Saw—A Saw Bench—An 8 inch Jointer and Planer—A Mortiser and Borer. Our type "C" Woodworker is equipped complete, including tools and belting. The heavy base is fitted with wheels—one of which swivels—making it very easy to move machine. Get our descriptive matter about this machine, also particulars about our 30 day trial selling plan. Drop us a line for full details right now.

THE TANNEWITZ WORKS
315 N. Front Street
Grand Rapids :: Mich.

Parks Portable Single and Combination Woodworking Outfits

This machine combines three of the most necessary tools to have on the job, namely:



GRIMM WOODWORKER

9 Machines in 1
The Handiest, Most Practical Time Saving Machine Made

It will complete all the work you now have done at the planing mill, such as ripping, cross cutting, dadoing, jig sawing, jointing, boring, moulding, sanding and emery wheels. Get a Grimm and increase your profits.

Built with belt or electric motor drive, also gasoline engine for portable use. Thousands in use. Send for catalogue and prices.

GRIMM MANUFACTURING CO. 46 Erie St., Buffalo, N. Y.

COMPLETE OUTFIT **\$15.00** HAND AND FOOT-POWER MACHINERY

Our No. 7 Scroll Saw is warranted to be made of good material and workmanship, and to saw pine 3 inches thick at the rate of one foot a minute.

Send for Catalogue.

W.F. & Jno. Barnes Co.

74 Ruby St. ROCKFORD, ILL.



FAY-EGAN "LIGHTNING" No. 00 Band Saw

is especially well adapted for use in carpenters' and builders' shops.

It has the Fay-Egan proven perfect arrangement of a solid lower and spoked upper wheels preventing choking in heavy cuts.

Write for further information.

J. A. Fay & Egan Co.
545-565 W. Front St. :: :: CINCINNATI, OHIO

In This Improved Swing Saw Machine the Saw Arbor Travels in a Perfectly Straight Line

PRYIBIL No. 5 Parallel Swing Saw

Also for grooving, gaining, rabbeting, tenoning, etc. Send for prices and catalog.

P. PRYIBIL
520 W. 41st Street NEW YORK

This Machine Cuts..... (Parallel with Table)

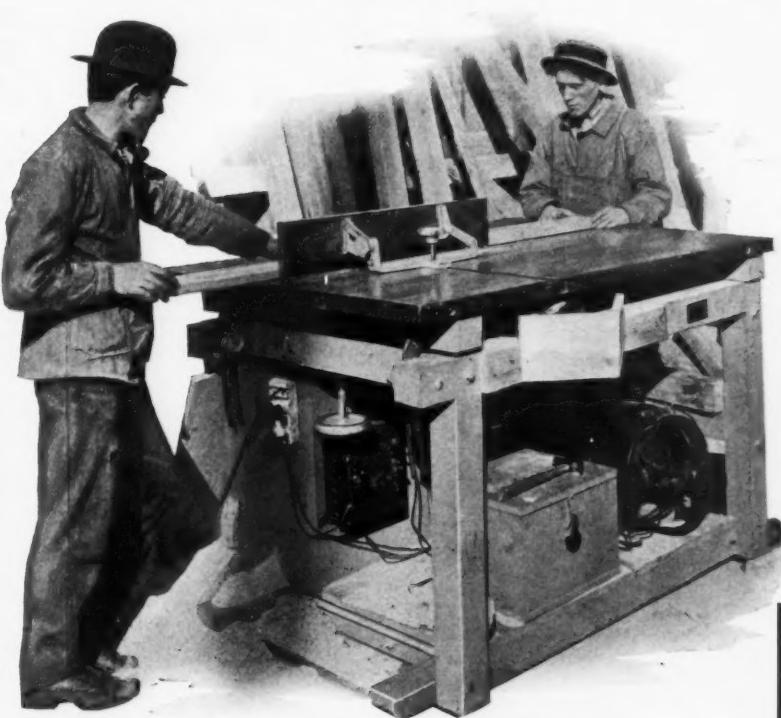
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POR TABLE SAW RIGS

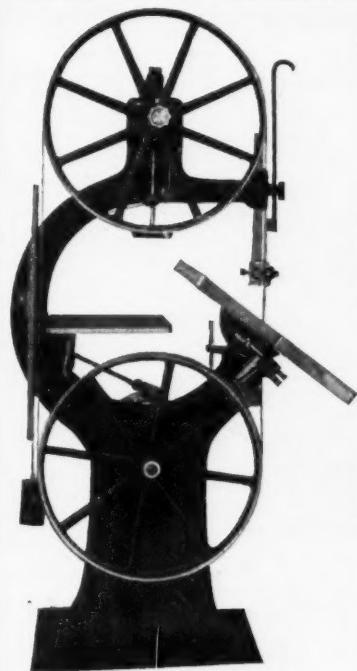
**WE MANUFACTURE
THEM COMPLETE IN**

5 Sizes

**WRITE US FOR OUR
ATTRACTIVE
CATALOGUE JUST
OFF THE PRESS.**



C. H. & E. Manufacturing Co., Inc.
322 Mineral Street MILWAUKEE, WIS.



27-inch Chicago Band Saw

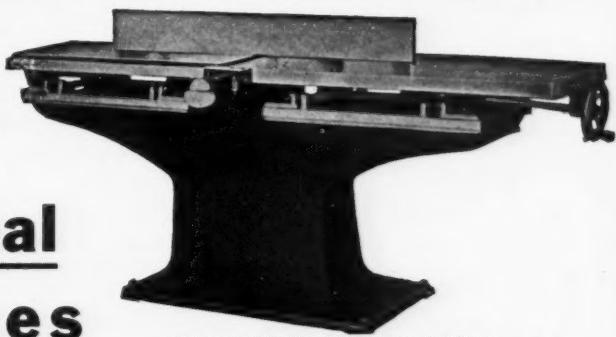
Send for our Free Special Catalogue today. We issue a catalogue of machines especially adapted to Contractor's and Builder's Use.

\$127.00 for Both to Contractors and Builders

Ask for Price on One If You Can't Use Both

Used for Planing, Jointing, Shaping, Matching, Rabbeting, Grooving, Chamfering, Beading and Making Mouldings.

**Use Real
Machines**



Chicago 8-inch Jointer and Planer

READ what this user writes:

Dear Sirs:

July 1, 1912.

I received my 27-inch Chicago band saw and 8-inch hand jointer together with belting and pulleys shipped by you some time ago, and have been using them ever since—almost night and day, and must say they are as good as money can buy.

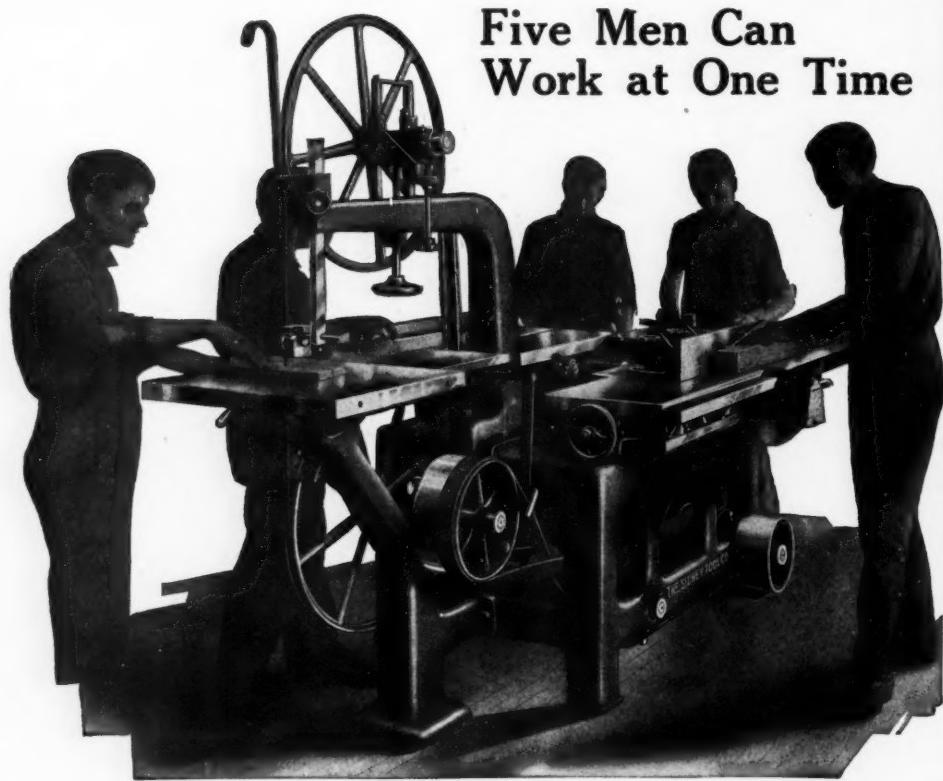
Thanking you for your promptness in filling the order, I remain

Yours truly, F. W. HAWES, Knoxville, Ill.

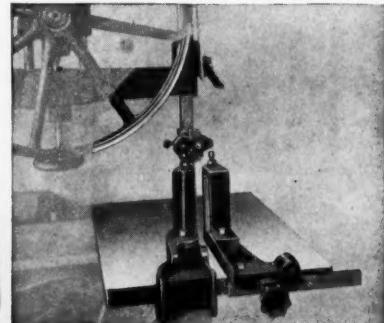
Chicago Machinery Exchange

1215-1223 Washington Boulevard

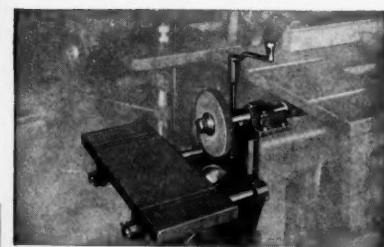
CHICAGO, ILL.



Five Men Can Work at One Time



Band Re-Saw



Emery Grinder

The FAMOUS "30" Universal Woodworker

EVERY one of the 1,600 Famous Universal Woodworkers in use was purchased because it was a real economy—because it meant quicker and cheaper millwork—because it had "Famous" quality and was backed by the Famous guarantee.

Out of the experience gained in building these sixteen hundred woodworkers we have evolved a new machine—a universal woodworker that is even better than anything previously attempted by us, and so far superior to competitive machines as to be almost beyond comparison. This is known as the Famous "30."

Sixteen Woodworking Machines in ONE!

"Sixteen Machines in One" is the slogan of the "30," and we mean by this that sixteen different kinds of millwork can be done. What do you want with a number of machines when **one** will do the work? You haven't the capital to invest in a number of machines—you haven't the floor space to spare—you haven't enough machinists to operate them all! Five men can work on the "30" at one

time—each doing a different kind of work to the others. You won't find this feature on any other wood-worker.

The "30" Provides all the Machinery needed by Carpenters, Builders and Contractors

The Famous "30," complete with all attachments, provides you with **all the machinery your business needs**. It is really a complete planing mill except that it **doesn't cost much**, doesn't occupy much floor space, doesn't require any power-transmitting machinery because that comes with the machine, and doesn't cost a cent for maintenance because **we guarantee it for life**.

There's no need for expert machinists—almost anybody can operate the Famous "30"; it is the **most simple** and easily understood woodworker on the market. There's **no wasted time** as the attachments for performing the various kinds of work can be fitted **almost instantly**.

Be Independent of Local Planing Mills

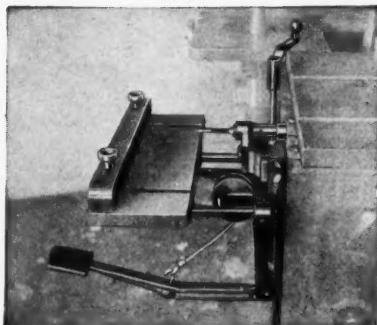
Doing your own mill-work in your own shop means **lowering your costs of production** and to

THE SIDNEY TOOL COMPANY
Chief Offices and Factories
AGENCIES AND DISTRIBUTING CENTERS THROUGHOUT THE UNITED STATES AND ABROAD
SIDNEY, OHIO



Ask for
Catalog
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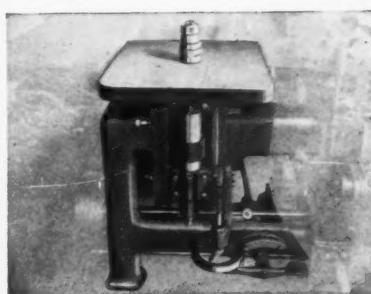
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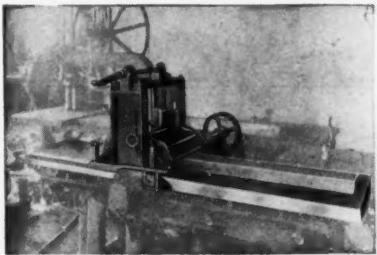
Hollow Chisel Mortiser



Knife Grinder



Shaper



Planer



Tenoner



Drum Sander

be in a position to underbid your competitors. You can save from **25 to 50 per cent** of what you are now paying planing mills, while the saving in time is even more important. Planing mills are making profits out of **your work**. Stop paying profits to somebody else; put them where they belong—in **your pocket**.

You invest in a Famous "30" **once**. When it has paid for itself—which doesn't take long—it means a definite saving right along. Our iron clad guarantee means it won't cost you a cent in repair bills.

Each of the Sixteen Different Attachments is Equal in Quality of Work to a Whole Machine

Operating the band saw on the Famous "30" is just like operating any ordinary band-saw. This is also true of the other fifteen operations. The attachments are exactly the same as on machines that do only one kind of work. We give you **sixteen machines—but only one frame**. We have eliminated all unnecessary frames and other useless parts and have combined the **actual machines—the parts that do the work**—on one frame, thereby simplifying and cheapening the whole arrangement.

The regular equipment consists of a 27-in. Band Saw, 12-in. Jointer, Variety Saw Table with raising and lowering Arbor, Reversible Shaper, and Borer. All these can be operated independently of each other and all can be

operated at one time. See the photograph on preceding page showing this operation.

In addition to this equipment we can furnish attachments which bring the total number of wood-working operations up to sixteen. These consist of: Planer, which will plane stock up to six inches thick; Hollow Chisel Mortiser; Single End Tenoner; Knife Grinder; Emery Grinder; Drum Sander; Disc Sander; Band Re-Saw; Panel Raiser; Tongue and Pole Rounder; Adjustable Felloe Rounder; Spoke Tenoner, Rim Borer and Wheel Equalizer.

Belts for the different attachments are located in the frame of the machine, out of the way of the operator yet readily accessible when desired. We can furnish this motor driven for direct or alternating current when desired.

The Frame is Cast in One Solid Piece—not Bolted Together

As an example of the durability and rigidity of the Famous "30" we refer you to the frame. This is cast integral—not bolted together like other woodworkers. This same care is exercised all through. We have put strength where strength was needed. We have left no possible room for improvement. We have simplified it to such an extent that all other woodworkers are clumsy, costly and antiquated in comparison. We are making strong statements—but the machine itself is well able to back up our statements.

MAIL THIS COUPON

The Price of the Famous "30" is within the reach of Carpenters

Don't think that because the Famous "30" is so good that it is beyond your reach. It is not. With our superb manufacturing facilities we have brought the price within the reach of every carpenter and builder and can prove—by facts and figures—how its cost is the **best possible investment** you can make. All we ask now is that you **investigate** the machine and its price. To popularize this new machine we are making a special offer for the month of January and it's to **your interest** to get details. Write now. No obligation. It means a bigger business for you. Send the coupon and ask for catalog No. 12.

Send this Coupon to the Sidney Tool Co.,

Special 30 Day Offer!

**Sidney Tool Co.,
Sidney, O.**

Please send full details and information regarding the Special Offer you are making, good for sixty days, on the "Famous" Universal Woodworker.

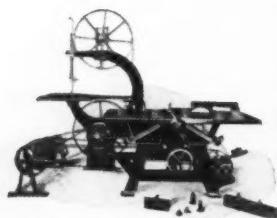
Name.....

Town.....

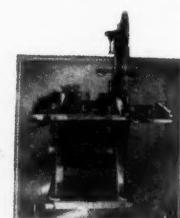
State.....

A. C. & B., Jan. 1913

[January]



Let Us Quote You On
Several Styles of
Combination Machines
Lowest Possible Prices
United Machinery Company
86 Centre St. NEW YORK CITY



SAMSON SPOT SASH CORD

Reg. U. S. Pat. Off.

Samson Cordage Works

Boston, Mass.

Made of extra quality stock, carefully inspected, and guaranteed free from the imperfections of braid and finish which destroy common cords so quickly.
The spots on the Cord, in any color, are our trade mark. Don't be misled by imitations. Samples and full information gladly sent.

SEE HERE—Read What A Big Contracting Firm Says About Our Double Arbor Rip and Cut Off Machine

HEDDEN CONSTRUCTION COMPANY,

Builders

Metropolitan Tower, New York City.

Subject: Northwestern Mutual Life Building of Milwaukee, Wis.

Milwaukee, Wis., June 12, 1912

Beach Manufacturing Co., Montrose, Pa.

Gentlemen—We beg to acknowledge your favor of the 7th inst., in reference to the No. 3 Double Arbor Rip and Cut-off Machine which we purchased from you. In reply to same, beg to advise you that we have been entirely satisfied with the work performed by this machine and found it to be a great labor saving device.

Very truly yours.

HEDDEN CONSTRUCTION CO.
(SGD.) By R. W. Berliner.

RWB/NC.

These Portable Double Arbor Rip and Cut-Off Saw Machines with either Iron or Wood Frames, can save you time, labor and material on any job. The machines are easily portable and require but small space to operate in. They are equipped with either electric motor or gasoline engine.

Our Double Arbor feature gives you in one machine a Rip and Cross-Cut Saw ready for use at any time. Their boring attachments require no pushing of lumber to bit. The bevel gauge will make any cut that can be made on a tilting top table. The mitre gauge can be set to any angle—right or left. The dado head can be used in either saw arbor.

Our table extension is framed together, trussed to prevent springing and provided with steel lumber roll, at outer end.

We guarantee these machines in every respect. Write us today about them. Get our catalog "M."

BEACH MANUFACTURING CO. - MONTROSE, PA.

No. 5 "UNION" SAW

Almost a Complete Work-shop in One Machine

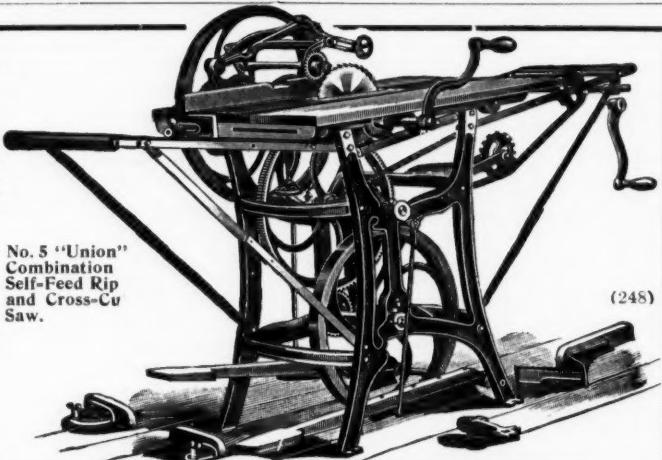
This Machine is a combination Self-Feed Rip and Cross-Cut Saw, suitable for various kinds of work—ripping (up to 3½ inches thick), cross-cutting, mitering, etc., and with attachments, rabbeting, grooving, dadoing, boring, scroll-sawing, edge-moulding, beading, etc.

The heaviest, most substantial, accurate and easiest running machine of its kind on the market.

We Build a line of Foot, Hand and Light Power Woodworking Machinery; guarantee each machine to be thoroughly practical and accurate. Machines sent on trial, and if not found entirely satisfactory may be returned. Send for Catalogue "A."

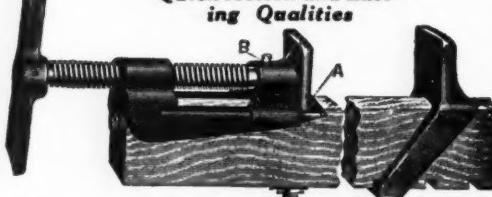
The Seneca Falls Mfg. Co.

218 Water St., Seneca Falls, N. Y., U. S. A.



50c FOR THIS Clamp Fixture

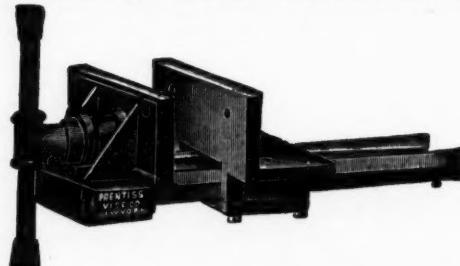
It is Unequalled for Strength—
Quick Action and Lasting Qualities



Write for Catalog of Sheldon's Clamps and Vises.

E. H. SHELDON & CO.
184 Nine Street MUSKEGON, MICH.

BLAKE QUICK ACTING VISE



For Cabinet Makers and Wood Workers. Simplest—Strongest—Cheapest—Best
Send for Catalogue of all kinds of Vises
PRENTISS VISE COMPANY, MAKERS
106-110 La Fayette St., New York, U. S. A.

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Crescent Universal Wood Worker with four men on the job.

CRESCE

RESOLVED—

"I Am Going To Start 1913 By Looking Into That Crescent Woodworker. They Say It Will Help Me Save More Money, So I'm Going To Investigate And Satisfy Myself."

Make that your resolution, too. You will find there are a good many contractors, builders and carpenters who have determined upon just such a course.

Is there any particular reason why you should not join them and investigate and satisfy yourself as to just what our Crescent Wood Worker can do for you?

No contractor, builder, carpenter, shop or supply yard can spend the first days of the new year to any better advantage than in going over the Crescent Universal Wood Worker with us.

This Crescent Universal Wood Worker of ours is not an experiment or make-shift machine. It is a guaranteed wood working equipment—a wood working equipment you can always rely upon—one you can always make paying use of. Don't just simply take our word for this—let us show you and tell you about its record of successful operation in hundreds of shops.

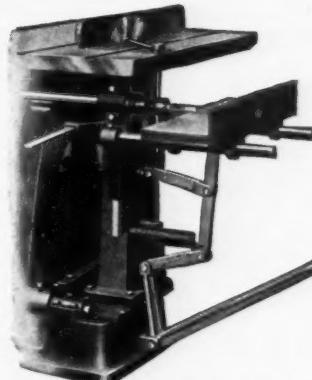
We give you all the facilities and advantages of a fully equipped planing mill in this Crescent Universal Wood Worker. It is a machine that is considerably more than a mere combination wood worker. It is a machine that four men can work on at one time without interfering with one another. It is a machine that is really 15 machines in one—because in addition to its five separate units—the band saw; the jointer; the shaper; the saw table and borer—various attachments for panel raising, tenoning, mortising, tool grinding, knife grinding, sanding, dadoing, resawing, moulding making and pole rounding can be added.

In the Crescent each machine is entirely independent of the others—each can be started and run and stopped at will. The Crescent is compact. It is convenient. It is particularly suitable for the kind of work you have to do. It operates easily. Any average mechanic can handle it satisfactorily.

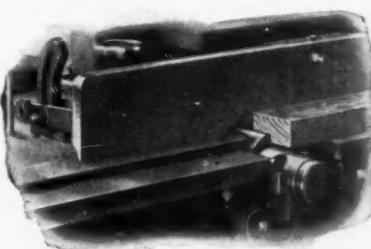
The Crescent is well built throughout—and is always ready for work.

We equip the machine with either a 26-in. or 32-in. band saw, and with either an 8-in., 12-in. or 16-in. jointer. We can also furnish the machine without the band saw.

Our new 128 page catalog will interest you. Let us mail you a copy—sent FREE and without any obligations on your part. It will describe our Crescent Universal Wood Worker to you in detail—and fully explain just how you can make paying use of it.



This attachment converts the borer into a hollow chisel mortiser, suitable for cutting mortises up to $\frac{1}{8}$ inch square.



This shows how to do rabbeting on the jointer. You can't do this on every jointer. How it is done on a CRESCENT is fully explained in our latest catalog.

THE CRESCENT MACHINE CO.

224 Main Street

LEETONIA, OHIO



Metal Top.

Royal Ventilators have proven the most efficient for the purpose.
The Royal is made in every size and shape with metal or glass top.
Write for catalog.

ROYAL VENTILATOR CO.

:: ::

417 Locust Street, Philadelphia, Pa.

ROYAL VENTILATORS

Will Exhaust More Air than any other ventilator made. This is why you should always use Royal Ventilators. The sharpened bottom cone insures a greater exhaust of air per minute and also offers the least resistance to natural draft.

It ventilates better and there is no back draft.

Note the double deflector, which deflects the air over and out of the ventilator and out of your building.

Wherever ventilation is necessary, as in Factories, Engine and Boiler rooms, Foundries, also School buildings, Hospitals, Residences, etc., the

Royal Ventilators have proven the most efficient for the purpose.
The Royal is made in every size and shape with metal or glass top.
Write for catalog.

GET THE ROOF THAT LASTS

—the kind that never fades, never wears out, never needs any painting, re-coating or repairing every few years and never absorbs any water.

GENUINE FRANKLIN TUNNEL SLATE

—the strongest, the most uniform in color the best hand-selected, made from the best slate deposits makes the "Roof that Lasts a Lifetime" and Guarantees Freedom from all Roofing Troubles.

Plan Now to roof Right. Begin by sending to-day for our new Catalogue. Just out. It points the way to immense roof saving. Write for your copy to-day. It is sent Free.

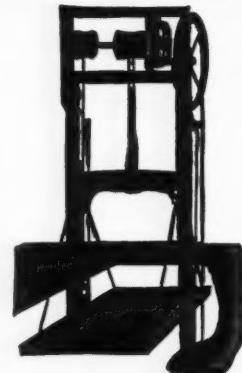
SLATINGTON SLATE CO. Manufacturers **SLATINGTON, PA.**
G. F. T. Slate puts "The Finishing Touch" on any Building.

THE MYERS GIANT ADJUSTABLE TANDEM DOOR HANGER

for TUBULAR GIRDER TRACK is adjustable to and from the building, and up or down as necessary. Has flexible engine truck with steel rollers revolving on steel roller bearings. The adjustable features prevent trouble from weather conditions or sagging of building. Storms, sleet or ice do not affect it, owing to complete protection afforded by the tubular track. Track and Hanger are constructed to carry and operate heavy doors easily.

This and other styles of Tubular and "Stayon" Door Hangers are shown in our Door Hanger Booklet. Copy mailed on request.

F. E. MYERS & BRO.
ASHLAND, OHIO



PERFECTION ELEVATORS

The Best Value for the Money in the World
Mechanically Correct

Dumb Waiters, Carriage and Store Elevators, Sidewalk Hoists, Etc., Etc.

Our Elevators are noted for their EASY RUNNING and SERVICEABLE QUALITIES. They are practically self-contained, and can be erected by any carpenter in a few hours. We furnish plans for erecting.

The Low Cost Will Surprise You

State your requirements, giving capacity, size of platform and number of feet to travel and we will name our lowest money saving estimate.

SIDNEY ELEVATOR MFG. COMPANY, SIDNEY, OHIO

**DUMB WAITERS
AND
HAND ELEVATORS**
OF THE MOST IMPROVED
AUTOMATIC CONSTRUCTION
**INVALID LIFTS
TRUNK, CARRIAGE,
SIDEWALK AND
FREIGHT ELEVATORS**
SEDGWICK MACHINE WORKS
128 LIBERTY ST. NEW YORK
CATALOGS AND
ESTIMATES FURNISHED
SEE SWEET'S INDEX



Excelsior Dumb Waiters

The only Knock-Down Dumb-Waiter ever offered, shipped complete to a nail, with explicit directions for erecting, for \$18.50

Up-to-Date in Every Particular

Hardwood Car, Self Retaining Machine, Adjustable Weight, Guides, Ropes, Timbers and Hardware. Ropes joined by coupling. No Splicing. Will fit any ordinary opening up to 24" x 30"

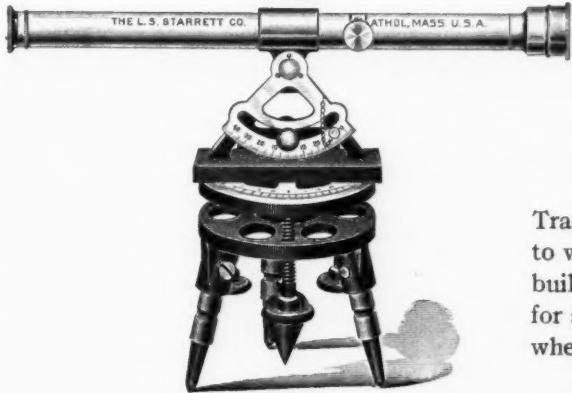
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R. M. RODGERS & CO.
74 Emerson Place - - Brooklyn, N. Y.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Don't Pay High Prices

to Civil Engineers for laying out your foundation sites, running levels, and similar preliminary work. Do all this yourself with the



Starrett Transit

You can do all your own engineering work with this Transit, and do it just when you need it—you don't have to wait the convenience of any engineer. This instrument is built for your class of work. All the expensive attachments for special engineering are left out so that the price is down where "I can't afford it" is no excuse.

Send for catalog No. 196 and learn the other tools we make for the carpenter and builder.

THE L. S. STARRETT CO.

ATHOL, MASS.

42-71

NEW YORK

LONDON

CHICAGO

The Yankee Compound Level



A reliable instrument for simple levelling and laying off horizontal and vertical angles. Can be handled speedily and easily.

The Yankee is particularly adapted for Architects, Builders and Contractors, use.

The Yankee is made of high grade materials throughout. All complicated and costly unnecessary features have been eliminated.

The Yankee is not an experiment. Yankees are in extensive use. They are giving thoroughly satisfactory service in every way.

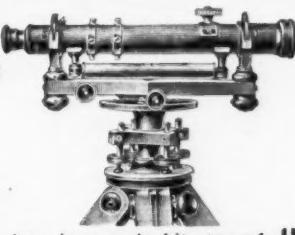
The Yankee is the BEST moderate cost instrument made. It is light and simple. The vernier on a circular plate leaves the circle from springing elliptical in case the instrument falls. It is the only instrument where the plate levels are saved by quickly employing the telescope level.

Before you buy any level write us for complete particulars concerning the Yankee Compound Level.

Let us send you this information right NOW.

FROST & ADAMS CO., - 31 Cornhill, - BOSTON, MASS.

LEVEL WORK



Architects Builders Contractors

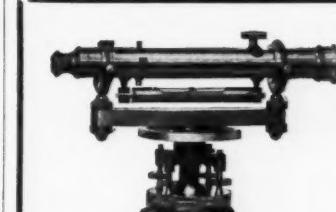
nsure against mistakes in leveling by using our Architects and Builders Level. We make a specialty of this instrument. It will give positive, accurate service. Saves its cost in a short time.

We manufacture a complete line of surveying instruments in various sizes and at a wide range of price.

Our circular No. 27 will explain our instruments to you in detail. It will pay you to get it before deciding upon any surveying instruments.

KOLESCH & CO.
Surveying Instrument Makers. Established 1885.
138 Fulton St. - - - NEW YORK

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Over 3000 in Use
There's a Reason

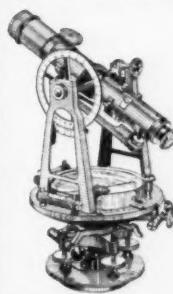
WHITE'S IMPROVED LEVEL

is guaranteed to give satisfaction or money back. Ask for catalog and special price—Ask today.

DAVID WHITE CO.

419 E. Water St., Dept. C, Milwaukee, Wis.

THE BEST CONCRETE BUILDINGS are erected with the aid of a good instrument



None better than the BECKMANN

Our high power telescopes are especially adapted for work of this nature and will show an error of $\frac{1}{8}$ inch in 300 feet. It will pay you to investigate our Levels.

Send for Circular Y.

The L. Beckmann Company, Established 1874
500 Adams St., Toledo, Ohio

Our Expert Service Department

The American Carpenter and Builder receives many requests daily for information from its readers. Some of them want help on work that is new or unusual. Others want to buy machinery, tools, equipment, supplies, and materials and ask us to recommend what is best suited for the purpose and to give them advice where to buy it. In short, many thousands of our readers rely upon the Editorial and Business Departments of the American Carpenter and Builder in helping them to solve problems of various kinds and on all sorts of subjects.

Free Information for Our Readers

It is a pleasure for us to render this assistance to our readers. We welcome every opportunity to help them in any way. We have a splendidly organized Information Department which takes care of these matters. This department is called "Radford's Expert Service," and is composed of a staff of practical builders, engineers, architects, draftsmen, and writers, able to take care of all matters relating to construction.

Brings Buyers and Sellers Together

This "Expert Service" has a completely indexed reference department, consisting of the names and addresses of manufacturers and dealers in everything that is bought or used by contractors, builders, carpenters, architects, draftsmen, engineers, or any one engaged in any branch of the building industry.

Market Place of the Building Field

Immediately upon receipt of a communication asking where the writer can obtain a certain tool, machine, equipment, materials, supplies or any article, whether it is or is not advertised in our magazine, we write to manufacturers or sellers whom we know to be reliable and can furnish goods promptly. Letters are sent out the same day the request is received and in each case care is taken to write to firms nearest the location of the intending buyer, so as to make carrying charges as light as possible should a sale be made.

Our Complete Equipment

We want more of our readers to avail themselves of this "Expert Service." It is absolutely free to those who use it. Our facilities for gathering and furnishing information are unequalled by any other publication in the building field. The American Carpenter and Builder is affiliated with the Cement World and the Dealers Building Material Record, the three magazines comprising the Radford Publications. The Radford Publications have their own drafting rooms, architectural department, blue printing machinery, and a large staff of experienced, practical writers and artists. It has a reference library (second to none in the world) of books, pamphlets, periodicals and catalogues covering the entire construction field.

Prompt and Practical Help

Expense is not considered and the most painstaking care and attention is given to any request sent to our Expert Service Department. We most cordially invite our readers to make full use of it at any and all times.

If you want to get expert service on any problem of building, engineering, or paving, or if you want information about work that you do not understand, state such particulars as will help us to give you an intelligent answer to your questions.

If you want to buy anything, or if you want more information about something that is not advertised in the American Carpenter and Builder, or if you want to know more about something that is advertised, fill out the coupon below. We will place you in touch with manufacturers or dealers who will furnish you with just what you want and at the best prices.

Expert Service Department

AMERICAN CARPENTER AND BUILDER
178 West Jackson Boul., Chicago, Ill

Gentlemen: We are in the market for the items specified below. Please put us in touch with manufacturers whom you know to be reliable and can furnish goods promptly.

Yours very truly,

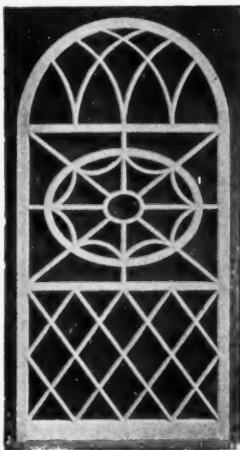
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Name _____

Street and No. _____

Post Office _____ State _____

When Writing Advertisers Please Mention the American Carpenter and Builder.



Does Five Times as Much Work as Could be Done in the Old Way

The Heald Machine Co., Worcester, Mass.
Gentlemen:—We have been using one of your "American Sash Trimmers" constantly for the last two and a half years, and are perfectly satisfied with its work.

It is a great labor saver, doing five times as much work as could be done in the old way, and doing it cleaner and better.

Yours very truly,
Mohawk Valley Lbr. Co., Fultonville, N. Y.

The letter only tells of entire satisfaction. It would take pages to tell of the many details of satisfaction this machine offers.

Our 30 Days' Free Trial

brings out all of these points. Just send us sample of your sash bar. We'll make up a set of special cutters and bed pieces to match. The machine will then be shipped you for 30 days' trial—no strings attached. All we ask is an opportunity to show you.

Heald Machine Company, 2 New Bond St., Worcester, Mass.



"RED DEVIL"

Are indispensable to any mechanic that uses a bit-brace for drilling. These attachments are simply portable drill-presses. They can be used for 1001 purposes. Drilling iron, stone, steel, slate, or marble. They are light, strong, compact and practical. We make 9 styles. Hand or automatic feed. No mechanic's kit is complete without one of them. Ask your local hardware man to show you the "Red Devil"



CHAIN DRILLS

chain drill line. If he can't fill your requirements, send us \$2.25 and one only No. 2012 Automatic Feed "Red Devil" chain drill filled with universal chuck taking round or square shank drills up to $\frac{3}{8}$ inch will be sent you prepaid. Try your local dealer first.



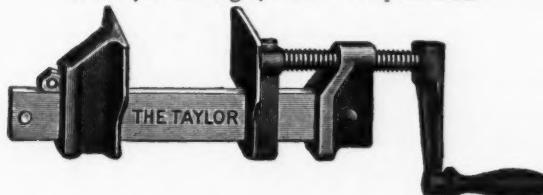
Smith & Hemenway Co.
125 Chambers St. - New York City, U.S.A.
("Red Devil" the standard of excellence in tool quality.)

\$13.95

per doz. 4 footers
—if you send cash
with order.

Absolutely Safe; two of them will carry a ton without even springing, and they last a lifetime. Then think of the time you save! One man alone can put them up and take them down easily and quickly.

Write for Catalog of Builders' Specialties!



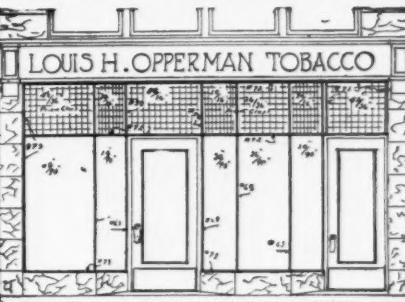
About clamps—the sliding jaw on each of ours can be moved in an instant DIRECTLY AGAINST the work operated on, so that half a turn of the fine specially threaded screw will apply the power.

Think of the time this saves!

The grip is positive, and special grade of steel in the bar more than doubles the strength of the clamp.

Our No. 10 catalogue shows some very interesting price reductions on four of the most wanted styles. It will pay you to write for it at once.

James L. Taylor Mfg. Co.
Poughkeepsie, N. Y., U. S. A.



There's a Satisfaction In

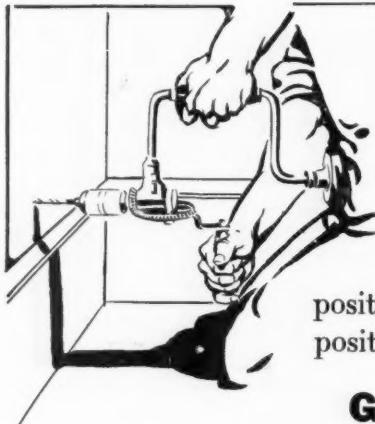
using a bar for that store front that has a reputation for long and successful service. That's why you should insist on

PETZ BARS

They are widely known by principal architects and builders as the most practical bar to use. Their beauty and style recommends them to the owner, and the strength, safety and ease of installment have made them a favorite with the builder. Never known to break glass; easy to install; allow the lowest insurance rates.

Our booklet on "Metal Store Front Construction" should be on your desk. Mailed free on request.

Detroit Show Case Co.
491 Fort Street, West :: Detroit, Mich.



This Drill Brace No. 192 Makes Difficult Boring Easy

The gear as shown by illustration is attached or detached by turning a thumb screw, but what is not shown is that when set it is as rigid as if keyed on. Its possible adjustment to three positions gives the user 100 per cent efficiency in any corner or in any position or angle.

Gear Attached or Detached by Thumb Screw

The ratchet is an improved device so arranged that both dogs can be thrown out of mesh at the same time, allowing free operation of drill gears.

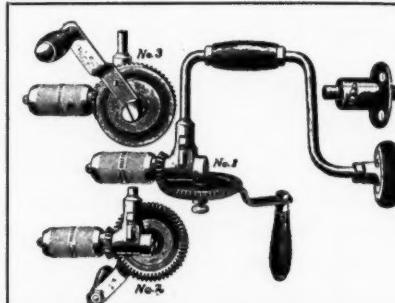
With drill gear detached, the brace is our regular 10-inch Sweep tool with all its patented improvements—universal chuck, taking all sizes and shapes of shanks, patent ratchet, non-splitting free-acting centre handle and ball bearing head.

Adjustable to any Position

Of fine appearance and works perfectly.

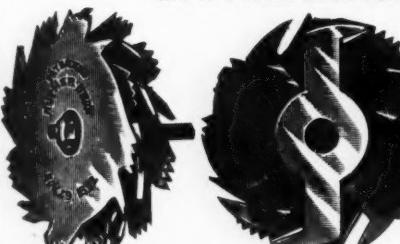
MILLERS FALLS CO.

28 Warren Street :: NEW YORK CITY



Huther Bros. Patent Groover or Dado Head

[Will save it's cost in three days' time]



Can be used on any Circular Saw Mandrel

For cutting any width groove from $\frac{1}{4}$ " to 2" or over. Will cut a perfect groove, either with or across the grain, and leave edges smooth. Will ship to any responsible firm on ten days' approval; if not satisfactory you are at liberty to return at our expense. We also make a specialty

of massive ground smooth cutting circular Mitre Saws, for either rip or cross cut: Grooving Saws for all kinds of special work; Lock, Corner Cutters

Coumave Saws, etc.

Try our Scraper Blades and you will use no others.
HUTHER BROS. SAW MFG. CO.
1000 University Ave.

ROCHESTER, N. Y.

INTRODUCTORY TRIAL OFFER

If the SELF-SETTING PLANES are not sold in your town and you write us saying, "I saw your trial offer in A. C. & B.", we will send you particulars, a carpenter's pencil and our \$1.00 Certificate, which we will receive as \$1.00 in payment for a SELF-SETTING PLANE as stated in our \$1.00 Certificate, and if this S. S. Plane is unsatisfactory and returned to us at our expense, we will send you \$1.00 more than you sent us, as the \$1.00 Certificate says.

As this paper guarantees we will do as our advertisement says, you know the plane must be O. K. ALL WE ASK is to have you TRY the SELF-SETTING PLANE on your own bench, in your own way, with or against the grain, on the WORST cross-grained eaty, knurley, knotty, hard or soft wood you can find, THAT IS FREE FROM SAND OR DIRT, TWICE ITS COST, return it at our expense as above stated.

If you send us the addresses of ten carpenters, no matter where they live we will send you another hard, tough carpenter's pencil.

Give the SELF-SETTING PLANE a chance to PROVE ITS WORTH, if it FAILS, return it and we will return your money.

Carpenters' Hard, Tough Pencils, 30c per dozen, postage prepaid.

GAGE TOOL CO., Vineland, N. J.



LUFKIN

Tapes & Rules
are Standards of
Accuracy, Durability
and Workmanship.

SEND FOR CATALOG

THE LUFKIN RULE CO.

NEW YORK
LONDON, ENGL.
WINDSOR, CAN



SAGINAW, MICH.

GOODELL MITRE BOX

Made of STEEL - Cannot Break

First in Quality

and Improvements

Automatic Stops

for holding up saw.

Corrugated Backs

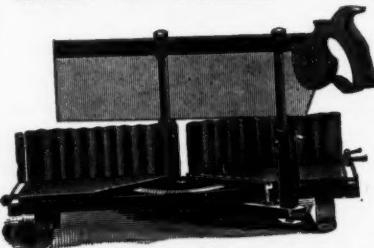
Graduated.

Gauge for duplicate cuts and many other features

Send for Circular

"C"

GOODELL MFG. CO., Greenfield Mass.





USE THIS MASTER SLIDE RULE and MAKE NO MEASURING MISTAKES

Take any measurements—inside or outside—quickly and accurately. This rule is strongly built of selected boxwood—trimmed with brass plated steel. Kept rigidly in place when extended by strong steel springs. Opens or closes instantly. Marked both for inside measuring and similar to other rules.

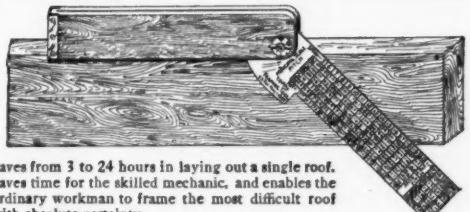
As shown above the lower slide is extended $2\frac{1}{4}$ inches, making distance between the two extreme points of the rule $10\frac{1}{2}$ inches, as indicated by the arrow.

This rule costs but 15 cents per lineal foot for 4, 5, or 6-foot rule. Ask your dealer for it or send for one today for a Xmas present.

Our circulars, agency proposition particulars, etc., will be mailed to you FREE for the asking. Get them.

DAHL MANUFACTURING COMPANY
Childs Bldg.—1 East 42nd St. NEW YORK CITY

Topp's Framing Tool



A Perfect Tool, and
the Only Tool for
the Purpose Ever
Invented.

Price, \$1.75

Saves from 3 to 24 hours in laying out a single roof. Saves time for the skilled mechanic, and enables the ordinary workman to frame the most difficult roof with absolute certainty.

IT DOES {
ALL THIS {
It gives angles for any pitch.
It gives lengths for any rafters.
It prevents all mistakes. It is accurate.
It gives cuts for principals, jacks, hips, valleys
and cripples.

G. A. TOPP & CO., Indianapolis, Ind. See Tool at Your Hardware Dealer. Circular on request

MONITOR SASH LOCKS



(PATENTED)

NEVER BREAK

BECAUSE THEY ARE MADE OF VERY HEAVY GAUGE
METAL AND PERFECTLY CONSTRUCTED.

If the upper plate drops, the Monitor "Never Break" Sash Lock will pick it up from a lower point than any other, adjust the sashes perfectly, prevent all vibration and lock securely, so it cannot be opened from the outside.

MADE IN TWO SIZES AND ALL FURNISHED BY

The Champion Safety Lock Co.
Geneva, Ohio

Ceilings That Pay—



Brooklyn Metal Ceilings

- are RUST PROOF.
- are made in a variety of designs suitable for any class of work.
- are superior in durability and quality.
- PRICES will enable you to meet any competition.
- Used in factory, store and home construction.
- GET this profitable business in your territory.

Write for particulars

BROOKLYN METAL CEILING CO.
288 Greene Avenue — BROOKLYN, N. Y.

STOP THE FLOPPING

of that Pantry Door. The everlasting "flip-flop" of the Butler's Pantry Door is not only very annoying, but is extremely dangerous. It pinches fingers, bumps heads and breaks dishes.

The RIXSON PANTRY CHECKING Floor Hinge

puts a stop to all these troubles. A perfect Floor Check at a low price.

THE OSCAR C. RIXSON CO.
544 W. Harrison St. CHICAGO

Makers of Sperry Casement Adjuster.

Goodell-Pratt's

No.
108

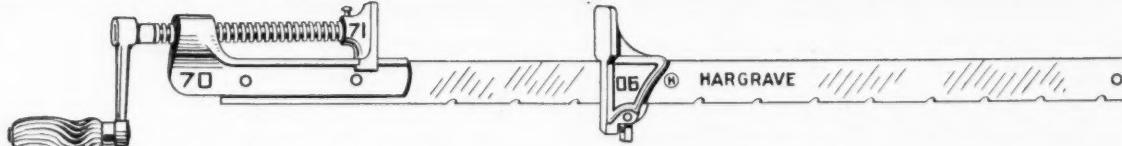
AUTOMATIC DRILL



Of the many styles of Automatic Drills made, none have gained such a world-wide reputation for durability, strength, and quick and easy boring, as Goodell-Pratt's famous No. 108.

The best carpenters use them. Do you? Fully described in our complete catalog. Ask us to send you a copy Free.

Goodell-Pratt Company
Greenfield, *Toolsmiths* Mass., U. S. A.



THIS is our Special New Adjustable Clamp. It was the first steel bar Clamp made. We have improved it in many ways with durability and ease of handling for the user always in view. It differs from our Perfection Clamp in having a longer frame, which reinforces the bar, and also guides the tip. Like our Perfection Clamp, it has a steel screw, carefully cut with heavy square thread and is securely keyed to malleable iron crank. Hardwood Handle turns easily but will not break nor come off. Frame of malleable iron with plenty of bearing for screw to prevent thread stripping. Bar is made of springy steel which will not buckle nor bend out of line. On Clamps over 5 ft. long, we use extra heavy bar and castings. Tip is of malleable iron with plenty of bearing for Screw, and is so shaped that it will not bind on the frame. Slide is equipped with hardened forged steel dog, which will not wear out. Notches close together to allow rapid work, but not so close as to weaken the bar.

(H)

ALL the Hargrave Tools are made just as carefully as this Clamp.

Made by THE CINCINNATI TOOL CO., Dept. H, Norwood, Cincinnati, Ohio

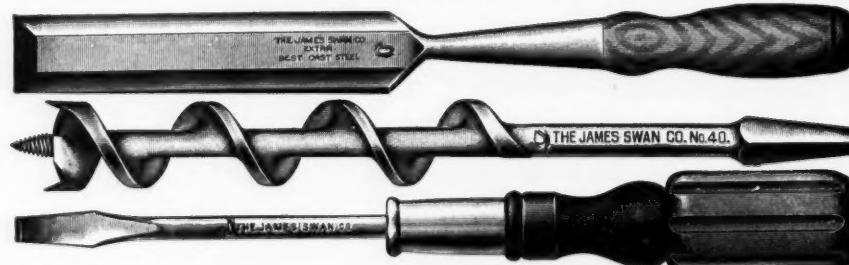
— THE JAMES SWAN COMPANY —
SEYMOUR, CONN.

Mechanics' Tools, Augers, Auger Bits, Draw Knives, Chisels, Hollow Augers, Gimlets, Boring Machines, Gouges, Screw Drivers, etc.

Send for Catalogue



Inquiries Solicited



When looking for quality buy goods with the "Swan" trade mark.

When Writing Advertisers Please Mention the American Carpenter and Builder.

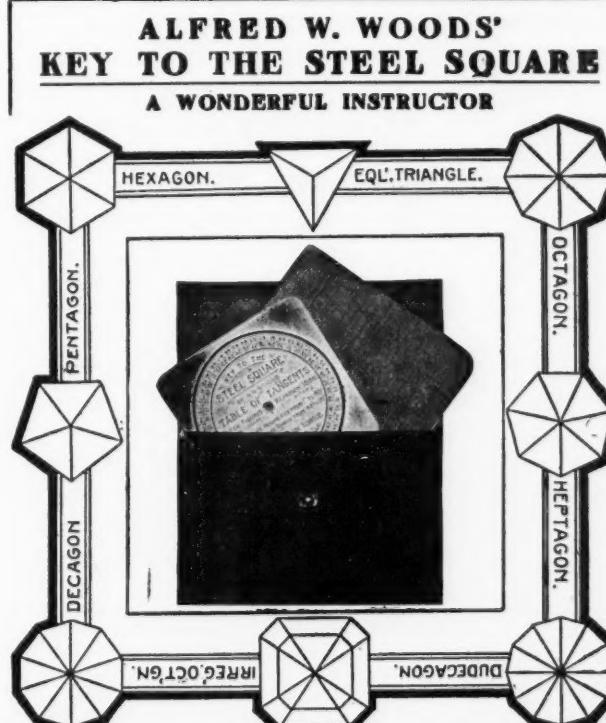
*Two Styles
But only One Quality*

Russell Jennings Auger Bits

are made with two styles of shanks: the ordinary kind for use in the ordinary bit stock, and the new Precision turned shank for those men who are annoyed by having the ordinary bit shank pull out of the brace. But the quality is the same for both kinds. It is the well-known Russell Jennings quality. Experienced carpenters know that this means the best in bits—fast boring, clean cutting, non-clogging bits. When you need a new set of bits, or a single new size, ask your dealer to show you the Russell Jennings.

The Russell Jennings Mfg. Co.
CHESTER, CONN.

21-98



It should be in the possession of every carpenter, or those having work in angles. It tells the whole story of how to use the common steel square, to obtain the cuts in degrees, or by inch rise per foot run for all kinds of framing.

Price \$1.50. Postpaid

AMERICAN CARPENTER & BUILDER
178 W. Jackson Boulevard, CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every "Yankee" Tool is a Labor Saving Tool

And there are 17 varieties to say nothing of the 100 and more different tools comprising them.



But you
ought to get acquainted
with the full line.

Our Tool Book tells you.
A postal brings it.

Your dealers sell the "Yankee"

North Bros. Mfg. Co.
Department A

PHILADELPHIA, PA.



Stanley Tools

A new Hand-Book full of interesting information for

**Carpenters
Machinists
Masons
Plumbers
Amateurs**

**Pattern Makers
Cabinet Makers
Millwrights
Wheelwrights
Householders**

It not only illustrates and describes over four hundred **Stanley Tools**, but also contains a number of very handy tables.

Tables that you have to refer to time and again.

For instance:

Tables of *Measures and Weights, Long, Square, Cubic, Liquid, Dry, Avoirdupois, Troy, Apothecaries, etc.*

Tables of *Circumferences, Areas, Squares, Cubes, Square and Cube Roots.*

A table of *Board Measure, Properties of Timber, etc.*

In fact there are twelve pages of special information that will help you on many a job.

Convenient size to carry in the pocket.

Sent postage prepaid to any part of the United States or Canada without charge.

Ask for Catalogue No. 34D.

ADDRESS

**Stanley Rule & Level Co.
NEW BRITAIN, CONN. U.S.A.**

"American" Wrought Metal

SASH PULEYS

Electrically Welded

Most up to date line on the market.

We make all kinds.

Our Famous Ball Bearing and Roller Bearing Pulleys are superior to all others. Wheels are made with combination groove for chain or cord.

Our Pressed Metal Pulleys are indestructible and are cheaper, lighter and better finished than cast pulleys and can be delivered promptly.

Send for Catalogue.

THE AMERICAN PULLEY COMPANY

OFFICE AND WORKS: PHILADELPHIA, PA.

Warehouses: New York, 203 Lafayette St. Boston, 165 Pearl St. Chicago, 124 S. Clinton St.



USE Crescent Nails In Your Roofing Work

With Crescent Roofing Nails you can put on more roofing in less time than with the old style tin plate and nails—and Crescent Roofing Nails will last much longer.

The stems of Crescent Roofing Nails are riveted both sides of head and they cannot leak as they are in one piece. The heads are thicker than the tin plates, this prevents their rusting out.

The heads of Crescent Roofing Nails are large—they have more bearing on the roofing and this prevents it from tearing off.

Crescent Roofing Nails have a good true point, which enables the roofer to make straight laps. Their large head prevents them from being driven through the roofing as is the case with the old style roofing nail or wire ringheads.

Crescent Roofing Nails are being extensively used. Be sure YOU use them on your next roofing job—they will save you time and they will give you better satisfaction.

Crescent Roofing Nails are made 1 inch and 1 1/4 inches long.

You can get Crescent Roofing Nails from your supply man. If he should not have them write us for descriptive circular, samples and name of dealer in your locality from whom you can get Crescent Roofing Nails.

**Crescent Brass and Pin Company
DETROIT, MICHIGAN**

Be Certain You Get
The Hammer With The

Grip

This is the famous ATHA CLAW nail hammer. It is the hammer that will always draw a headless nail—a cement-coated wire nail—from the toughest oak.

This ATHA CLAW nail hammer grips the shank of a nail—and out she comes.

ATHA hammers are balanced properly. They are easily handled.

All ATHA hammers are carefully forged at uniform forging heats from high-grade bar steel. They are individually and thoroughly tempered. Handles are made from best obtainable all-white, clear, straight grained, second growth hickory. All hammers are finished with brilliant polish.

Look for the Horseshoe Brand

Carpenters and Builders: Get an ATHA CLAW nail hammer from your hardware dealers—if he cannot supply you, send us 65 cents and we will forward you, prepaid, one number one and a half Bell Face Hammer by parcels post.

The Atha Tool Company
NEWARK, N. J.



This Pearson's Automatic SHINGLE NAILER WILL PAY FOR ITSELF ON FIRST JOB



Do your nailing fast—faster than ever before. You can use this Pearson's Nailer on any pitch roof. Wear mittens, gloves, etc. This nailer holds about 600 nails—throw nails in by the handful—they start nailing. Nails easily driven through tin or quite heavy sheet iron.

These nailers are made in two sizes—The BLUE Nailer for 3d common No. 14 gauge wire nails. The RED Nailer for 3d galvanized No. 13 gauge 1 1/4 inch wire nails.

Get a Nailer through your dealer or direct from us, prepaid for only \$5.00.

Money refunded if not as represented.

PEARSON MFG. CO.

ROBBINSDALE, MINN.

Galvanized Iron Cut Nails



For shingling, slating, boat and wharf building, fencing, sheathing and all exterior work use
Anchor Brand Iron Cut Galvanized Nails
as they will outlast the best of wood under all climatic and weather conditions.

Write for Prices.

E. & G. Brooke Iron Company
BIRDSBORO, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Saves you
work
and makes
money



14 Machines in One
1—Fine Diamo-Grit wheel. 2—Coarse Diamo-Grit wheel. 3—Universal tool rest. 4—Chisel and plane bit guide. 5—Diamo-Grit razor hone. 6—Diamo-Grit scythe stone. 7—Diamo-Grit saw gummier. 8—Felt polishing wheel. 9—Medium Diamo-Grit wheel. 10—Cloth buffing wheel. 11—Diamo-Grit oil stone. 12—Diamo-Grit pocket hone. 13—Plane bit honing attachment. 14M—Twist drill sharpening attachment.

**30 DAYS
FREE TRIAL
No money needed**

**Artificial Diamond Wheels make it easy
to keep tools keen**

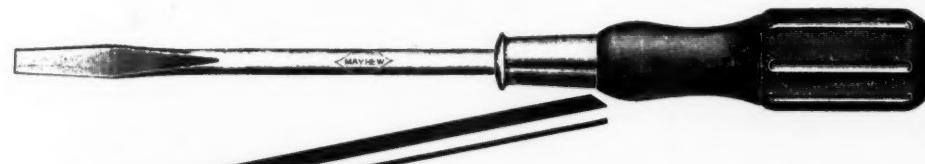
Keen tools make work easier, and enable you to do more work. DIMO-GRIT, the new artificial diamond sharpening substance on the wheels of Luther Shop Tool Grinders puts the keenest edge on dullest tools in a few minutes. No hard work. Wheels turn 2500 revolutions per minute. No water cooling—no need of hard pressure. DIMO-GRIT peels steel off in tiny shavings. No danger of drawing temper. 25 times faster than the grindstone, 10 times more efficient than emery. Wheels guaranteed five years; will not glaze or wear lopsided. Put this tool grinder in your shop on 30 days' free trial, and you will be amazed at the saving of work and increase in shop production, which means more money.

LUTHER SHOP TOOL GRINDER

All metal; shaft drive, dust-proof bearings. Runs as easy as sewing machine. Extra attachments convert it into jig and rip saws, drill, lathe, etc. Foot and engine power.

Write today for free book and pick outfit for 30 days' free trial. No money needed. If you don't want it after 30 days' free trial, send it back at my expense. Write today.

LUTHER GRINDER MFG. CO., 1805 Michigan St., MILWAUKEE, WIS.



HERE Is A Can't Slip Screw Driver

It Is The Mayhew "Peerless" No. 510

As this Peerless Screw Driver will not slip from screw slot it prevents any marring of work

Any one who uses a screw driver—whether a good many times every day or just once in awhile—should try out a Mayhew "Peerless" Screw Driver.

You will find this No. 510 "Peerless" very easy to use, it is not tiring to hand or wrist, it is made thoroughly and of A No. 1 materials, and the special "Peerless" point prevents any slipping from screw slot.

No. 510 and No. 511 "Peerless" Screw Drivers have blades forged from fine tool steel and riveted through ferrule. Ferrule is drawn steel, nickel plated. Handle is hard wood, fluted. The blade extends slightly through handle end and allows pounding without damaging handle.

No. 510 comes in regular sizes from 2 to 12 inches
No. 511 comes in cabinet sizes from $\frac{3}{4}$ to $12\frac{1}{2}$ inches

You will get complete satisfaction and thorough service from any Mayhew tools. We manufacture Drills and Braces, Breast Drills, Ratchet Drills, Bits, Gimlets, Counter Sinks, Reamers, Screw Drivers, Nail Sets, Punches, Awls, etc., etc.

The next time you buy any tool ask for a Mayhew. If your dealer does not handle Mayhew tools write to us and we will tell you the dealer of your locality who does

Why not drop us a line anyway for information about our tools?

H. H. MAYHEW COMPANY, Shelburne Falls, Mass.

THE BUSINESS END OF
A Peerless Screw Driver



An enlarged view of Peerless Screw Driver point. Note that point is non-slipping.

1853



1912

Fine Beveled Edge
Shank and Socket

Chisels

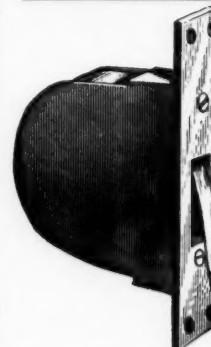
Butt Chisels

Plain and Beveled Edges

Send for illustrated Catalog

Buck Brothers, Millbury, Mass.

CALDWELL SASH BALANCE



Does away with weights and cords, and VASTLY more durable.

Makes sashes work perfectly.

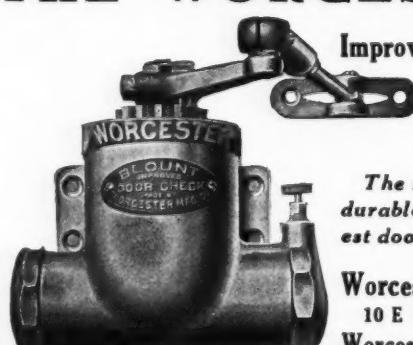
Permits greater window space in new work, as box frames are not necessary.

May be applied to old windows without altering sashes or frames.

Write for circular to the

Caldwell Mfg. Co.
15 Jones Street, - Rochester, N. Y.

THE WORCESTER



Improved BLOUNT
DOOR CHECK

The most certain,
durable and strongest
door check built.

Worcester Mfg. Co.
10 E Worcester St.
Worcester : Mass.

Hurry that Material

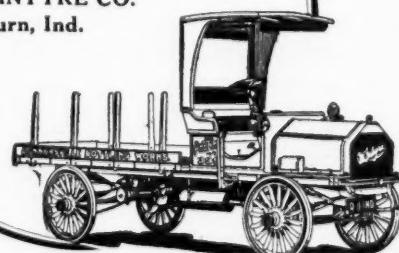
with a MOTOR TRUCK.

Write Us This Minute

We have it at prices within reach.
You are wasting time and money with horses.

W. H. MCINTYRE CO.
Auburn, Ind.

Catalog
AC



When Writing Advertisers Please Mention the American Carpenter and Builder.

Bishops Refined "Greyhound" Steel Saw—A Masterpiece

Of the Saw Maker's Art. We are proud of its quality and guarantee it to cut faster and run easier in all kinds of wood, to hold its sharpness and set longer than any other good saws.

It's the Your-Money-Back-If-Not-Satisfied Saw

30 Days' Trial Will Prove Our Guarantee



The "Greyhound" is the result of years of experimenting to originate a purity of steel with fine grain and tough body.

Length Each	18	20	22	24	26	28 1/2	30	Inches net
	\$2.35	\$2.50	\$2.65	\$2.80	\$3.00	\$3.30	\$3.65	

Packed One in a Box



GEO. H. BISHOP & COMPANY
LAWRENCEBURG, IND.

"A Bit of Utility"

Guided by its circular rim—instead of its centre—the Forstner Labor-Saving Auger Bit will bore any arc of a circle, and can be guided in any direction.

Doesn't matter how hard the wood is, no consequence whether it is full of knots, or the grain awkward to negotiate. The Forstner Bit works with equal smoothness under any condition and leaves a true polished surface on every job.

Unequaled for Delicate Work

Supersedes chisels, gauges, scroll-saws, or lathe tools combined, for all kinds of delicate work. Cabinet and pattern makers and carpenters are enthusiastic because they do more work than other bits and cost no more.

We can offer something special in the matter of price on sets packed in a sensible box. Send today for particulars and catalog.

The Progressive Mfg. Co.
Torrington, Conn.



MACHINE BIT



BRACE BIT

ROOF SLATES

STRUCTURAL SLATE BLACKBOARDS

When Writing Advertisers Please Mention the American Carpenter and Builder.

E. J. JOHNSON

38 Park Row, New York

Quarry Operator

BLACK, GREEN, PURPLE, RED

Booklet, Samples and Prices on Application

A Proven Success

SATISFACTION
GUARANTEED

What Do You Think



of a hand mixer that will mix ninety cubic yards of concrete per day? Can you imagine any convenience to a builder or contractor that would be more profitable?

The Northfield Batch Mixer

will do it. Speedy, handy, inexpensive, simply and durably constructed. Weighs only 300 lbs. Easily shifted to always discharge direct into forms. Saves half of wheeling time and labor, saves three-fourths transportation costs and repair charges, saves big money, time and worry on every job. Easy to operate—not a man-killer.

Thorough mixing principle that plows, hoes and stirs the entire mass many times per second.

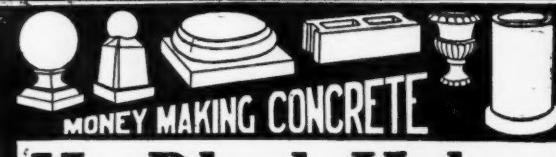
**SOLD
ON
TRIAL**

Operates by either Engine, Motor or Hand Power

NORTHFIELD IRON COMPANY

402 Water Street

NORTHFIELD, MINN.



MONEY MAKING CONCRETE

Mr. Block-Maker

Wet Process is Right.
Face down is Right.
Three blocks at a time is Right.
Triple Tiering is Right.
Damp Curing is Right.

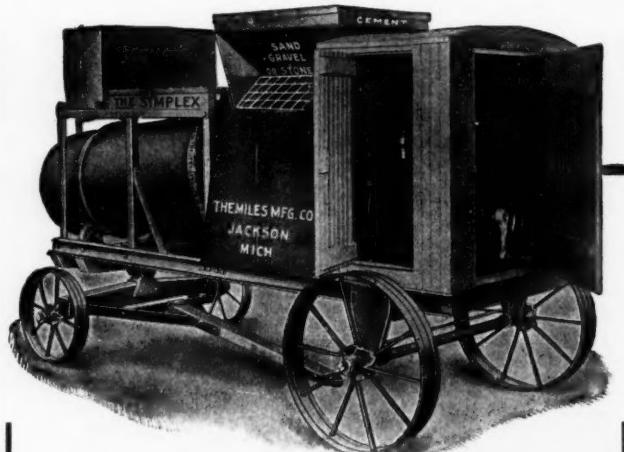
The Mogul Invincible Block Machine
COMBINES ALL THESE
IT IS RIGHT

It is 46 inches long and will make three 16" or two 24" blocks at one operation. It makes sills, caps, copings, rails and steps, faster and better than a special sill machine. It has every adjustment that any other machine has and many that no other machine has.

PRICE—Machine and Outfit, \$75.00

WRITE FOR CATALOG

THE PETTYJOHN COMPANY
634 No. 6th St., TERRE HAUTE, IND.



**THE SIMPLEX IMPROVED MIXER
1913 MODEL**



3-Hoppers, Continuous Feed Rolling Mix, Low down Steel frame. Simple, Strong and Accurate.

"The Miles" No 5, Down Face, Wet Concrete Block Machine

Makes Stone in Lengths, 4", 6", 8", 10", 12", 16", 18", 20", 22", 24". In Width: 4", 6", 8", 10", 12". In Height: 4", 6", 8". Also Angle Stone, Circle Stone, Gable Stone, Hollow or Solid Stone. The Contractor's Friend, Simple, Strong and Rapid. Lowest in price.

WRITE FOR NEW 1913 CATALOGUE

309 E. Franklin St.
JACKSON, MICHIGAN

"The Standard" Junior Concrete Mixer

has all the time saving and money making features that are embodied in our regular size machines. The Junior is mounted on two or four wheels and equipped with either gasoline or electric power or for hand power. The Junior mixer is particularly adapted to small contracts such as, side walks, curb and gutter and small foundations. The Junior mixer will mix twice as much concrete in half the time that is required for hand mixing.

"The Standard" Low Charging platform is only about 2 feet high and attached to the mixer. The platform can very easily be removed and the mixer charged directly from the piles. The Semi Automatic discharge is the simplest and quickest discharge on the market and can be operated from either side of the drum.

The Open Drum allows the inspection of the entire batch while mixing assuring a uniform high grade concrete.



Don't miss our exhibit in spaces 213-214, at the Chicago Cement Show, write for our catalog No. 144, and additional information.

The Standard Scale & Supply Company

CHICAGO
1345-1347 Wabash Ave.

PITTSBURGH
243-245 Water St.

PHILADELPHIA
35 So. Fourth St.

NEW YORK
136 W. Broadway

Lay Your Own Concrete

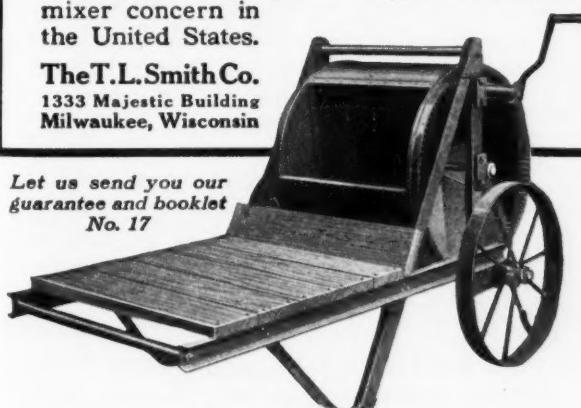
AS the forests are cut, builders turn to concrete. Concrete construction is not difficult. It pays liberal profits. Hundreds of contractors are going into concrete every year. You can start with a small investment—some wheelbarrows, shovels, small tools and a

Smith Hand Mixer

IT is a *batch mixer*, guaranteed to mix a perfect batch in three slow, easy turns of the drum. Cranks easily—popular with the men. Batch capacity, $2\frac{1}{2}$ cu. ft. Output, 25 to 30 cu. yards per day. Weight, 1000 lbs. Guaranteed fully by the biggest and oldest mixer concern in the United States.

The T.L. Smith Co.
1333 Majestic Building
Milwaukee, Wisconsin

Let us send you our
guarantee and booklet
No. 17

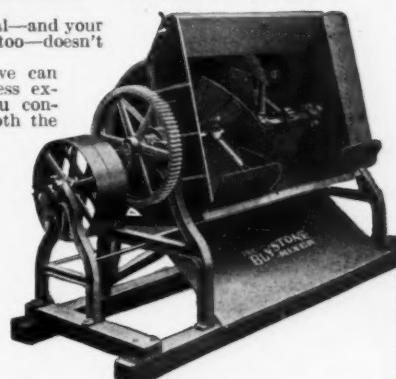


HOW ABOUT YOUR MORTAR MIXING?

Costs you a good deal—and your plaster mixing does too—doesn't it?

Do you know we can stop all that needless expense and save you considerable time in both the mixing of your mortar and plaster with our Blystone Batch Mixer?

This Blystone Batch Mixer is a practical and economical mortar and plaster mixer as well as a concrete mixer. Read what Contractor Nagel has to say about it.



THE BUILDERS' EXCHANGE, 180-188 Jessie Street
Phone Kearny 4700 San Francisco, Cal., Nov. 1st., 1912.
Blystone Machinery Co., Cambridge Springs, Pa.

Dear Sirs:—After having used the Blystone Mixer to mix hard wall plaster, I can recommend it to any one who wants a mortar mixer. It not only mixes rapidly but perfectly, and is a saver of both labor and material and easy to clean.

Yours truly,

W. L. NAGEL.

This Blystone can save you time, labor and material on every mortar and plastering job you do. It operates very easily. It is filled while in motion and material is discharged while machine is in motion. It mixes in full view insuring an absolutely accurate mix. The revers spiral paddle system of the Blystone mixes rapidly, turning over 40 times in ONE minute. Blystone mixers are furnished with gasoline engine power equipment or for belt driving. Mounted on skids or portable hand trucks.

Get our catalogs and other particulars explaining in detail how the Blystone can save you money—NOW.

This information will interest you.

THE BLYSTONE MACHINERY CO.
19 Carpenter St., CAMBRIDGE SPRINGS, PA.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Mullins Metal Tile Roofing

has won widespread and lasting favor because of its many superior qualities. Beauty, simplicity, durability—these are its salient characteristics. Absolutely storm-proof and water tight.

When put on according to directions, Mullins Metal Tile Roofing is guaranteed to keep in perfect condition for years. No other roofing can equal it for all-round satisfaction. Many of the finest buildings in this country are equipped with it.



only the finest materials. Every artisan in our employ is a masterhand. Our prices are attractive, our services prompt. Glad to submit quick estimates on special jobs.

Catalogue along any desired line will be sent you by return mail.

The W. H. Mullins Co.

214 Franklin St.

SALEM, O.



Making ready to insert the floor beams.

Van Guilder Hollow Wall Concrete Machine—Continuous Air Chamber from Cellar to Roof

Steel Reinforced Throughout

DON'T WASTE YOUR MONEY

The labor employed for making building material, such as blocks, brick, tile, etc., we utilize to erect the building. Completely revolutionizing building methods.

Our Walls are Stronger

being double and monolithic from footing to roof plate, with a continuous air space everywhere between—a house within a house. The walls are tied together, also steel reinforced horizontally every 6' high.

Our Buildings are Warmer in Winter, Cooler in Summer

Damp proof Frost proof Fire proof Vermin proof No Maintenance Everlasting Cost Less Sell Higher Exterior finished up-to-date Italian Stucco

Our Silo Machines

build the best silo walls in the world. Continuous air space. No freezing of ensilage. No vermin. No repairs. Stand forever.

Cold Storage Machine

Makes 3 walls and 2 continuous air chambers at one time. For cold storage, fruit and vegetable storerooms.

See Our Exhibit at the Chicago Cement Fair, Space 175.

VAN GUILDER HOLLOW WALL COMPANY 720 CHAMBER OF COMMERCE BLDG., ROCHESTER, N. Y.

The construction of the

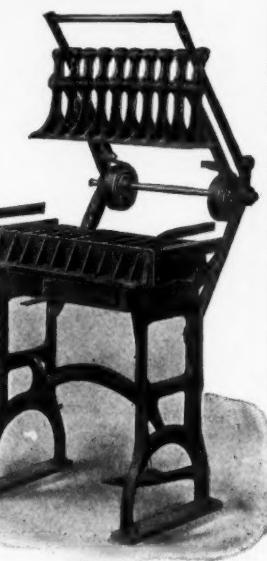
PEERLESS BRICK MACHINE

In the vital parts of this machine where a slight twist would cripple the brick, the PEERLESS is made of heavy, solid castings, carefully welded and planed. (Others use angle iron.) The entire set of plates which molds the faces of brick is of one piece of special mirror finished steel machined to shape. (Others use separate pieces.)

The above are examples of the superior way in which every part of the Peerless is made.

Next month we will tell more reasons why THE PEERLESS WILL MAKE MORE PERFECT BRICK AT LESS COST THAN ANY OTHER CEMENT BRICK MACHINE ON THE MARKET.

Write for illustrated catalog containing our unparalleled guarantee.



Peerless Brick Machine Co.

19 No. 6th St., Minneapolis, Minn.

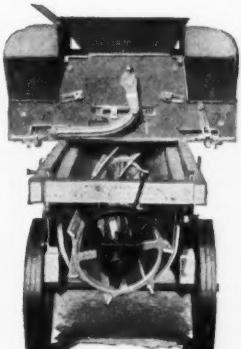
When Writing Advertisers Please Mention the American Carpenter and Builder.

It is the Ability to Save Money

In first cost, operating cost and total cost when the work is finished that is proving to users of mixers the greater economy of the Coltrin.



Delaware Park Boat House—Reinforced Concrete—Stone Veneer,
Buffalo, N. Y.



Rear View of Coltrin

Buffalo, N. Y., Nov. 16, 1912.

The Knickerbocker Co.,
Jackson, Mich.
Gentlemen:

In 1911 we purchased one of your No. 12 Mixers for use on the Park Dept. Sidewalk contract of the City, and put in about 75,000 sq. ft. of walk, besides a great deal of other concrete work.

This year we laid over 3 miles of 6 ft. sidewalk for the Park Department besides doing several other large jobs, among them the concrete work on the Delaware Park Boat House of which we are mailing you a photo.

The Mixer has given the best of satisfaction and can cheerfully recommend it to anyone in need of same.

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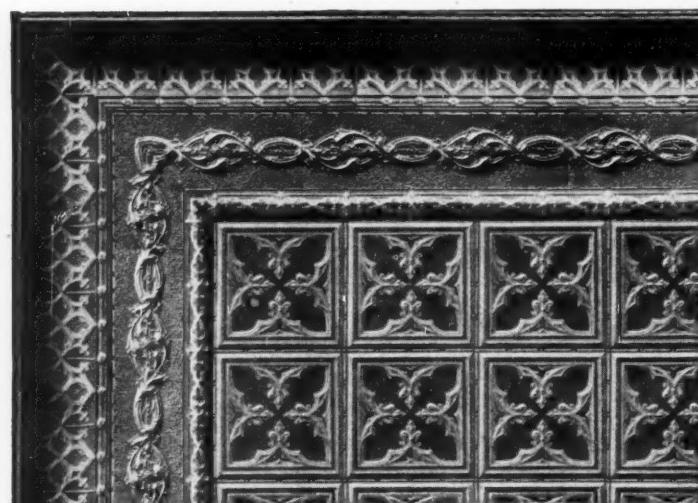
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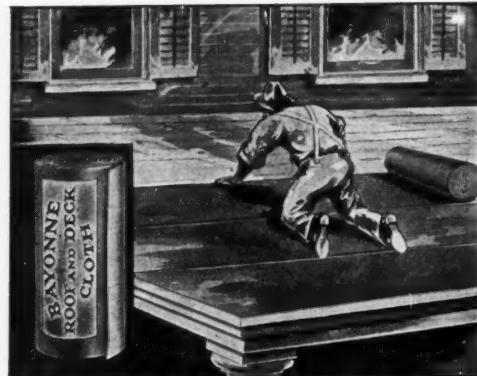
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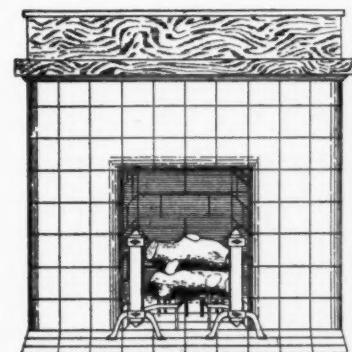
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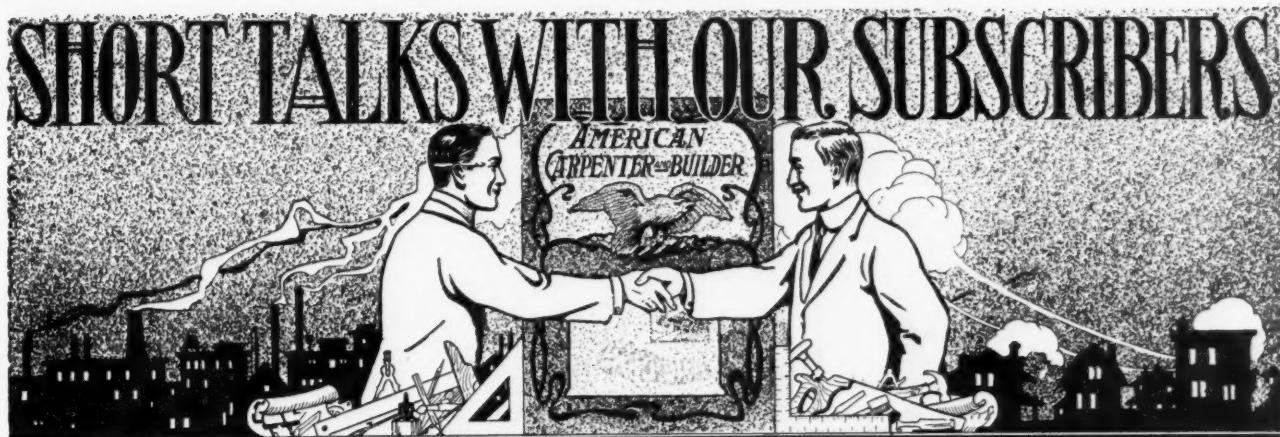
In the first place we carry at all times the largest and most complete line of builders' hardware in the country, so we seldom have to hold up an order because something is "out of stock." And this huge assortment (including the well known brands,) gives you the greatest possible choice of kinds and prices.

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Send us your plans or specifications so we may show you.

ORR & LOCKETT Established 1872 HARDWARE CO. 14-16 W. Randolph Street, CHICAGO, ILL.



1913—A Good Year for Builders

WE wish you heartily the best and most prosperous New Year in your history.

From all reports 1913 is going to set a record for volume of building business, satisfactory working conditions, and general contentment.

In many localities there has been scarcely any slackening of building activity even this winter. Spring building will start early.

We want every reader of the AMERICAN CARPENTER AND BUILDER to have his share (and maybe a little bit more) of this building prosperity. We wish for each of you happiness and just enough—not too much—contentment.

If You Like to Make New Year's Resolutions, Here is One for You

IT is an old habit and a good one to take an inventory at the first of the year. The wise man takes stock not only of his real estate and personal property, but also of his personal traits of character at this time. For carpenters and builders we want to offer just one New Year's resolution. If persisted in it will bring you many dollars before the year is done.

"Keep posted."

Read This Letter

A GREAT many of our readers are keeping posted. Nothing that is new or worth while gets by them. Our readers are getting the reputation for being well informed, wide-awake men. This is very gratifying to us, and it brings business to them.

Here is a letter recently received that is a sample of many:

Contents for January, 1913

	Page
Apparent Hanger—Assumption of Risk.....	56
Automatic Cellar Drainer.....	69
Birch—Its Uses and Structure.....	48
Cellular Steel for Concrete Floors.....	70
Competition for Haiti National Palace..	70
Concrete Construction	38
Correspondence	71
Covers Big Territory on Motorcycle.....	82
Details You Can Use.....	42
Double Deck Plate Rail.....	42
Easy Way to Build Boats.....	54
Editorial	35
Editor's Drawer	68
Eighty-Four Barns Like This.....	75
Entrances Protected Without Hurting the Eyes	70
Fireplaces that Won't Smoke.....	69
Forms for Round Chimney Flues.....	81
Frames for Concrete Block Buildings..	38
Good Bungalow for \$1,350.....	78
Good Season's Work.....	82
Home Workshop	52
How About the Tangents?.....	74
How the Mill Men Chew Up Lumber..	59
How to Make and Stretch Wire on Screens	71
Largest Stove Tank in Adirondacks.....	78
Last of Its Kind.....	82
Legal Decisions Affecting Builders.....	56
Length and Cuts of Purlin Posts.....	72
Making Power Woodworkers Pay.....	50
Modern School House Design.....	57
More Shop Kinks.....	58
New Uses for Terra Cotta.....	68
New Window	69
Noon Hour Talks by the Boss Carpenter..	44
Overshot the Mark.....	35
Personal Experiences of a Canadian Builder	71
Planing Mill Work.....	58
Plans for Pleasing Square Type Design..	60
Popular Colorado Bungalow.....	76
Possibilities of the Steel Square.....	47
Preservative Dip for Shingles.....	81
Prize Competition	36
Public Buildings	57
Readable Markings	78
Residences	60
Self-Releasing Girder	70
Short Methods of Calculation.....	74
Simple Colonial Entrance.....	42
Slope of Steam Heating Mains.....	74
Something About Newels.....	59
Special Trowel or Cement Plaster Coating	68
Steel Square	47
Steel Tool Chests.....	68
Substantial Town Hall.....	75
Time Saved Is Dollars Made.....	59
To Correspond with Machine Work.....	59
To Improve the Ventilation.....	80
To Keep the Dollars Coming in During Winter Months	54
To Piece Out a Column in the Rough..	59
Trade Notes and Items of Interest.....	83
Try This on Your Razor Strop.....	68
Two Home Craft Dining Room Pieces..	52
Two Problems Checked.....	77
Watching Jimmie	50
Well Planned Bungalow.....	76
What Carries This Roof?.....	80
What Gas Will Do.....	73
Wire Conduit Sizes Standardized.....	69
Yours for Safer Building.....	44

Clayville, Pa.
Editor American Carpenter and Builder:

The last number of the American Carpenter and Builder came promptly on time and it is a hummer. The Editorial staff certainly deserve praise for the high standard of the articles and illustrations.

Another thing I like is the high standard of the firms that advertise in the paper. I have written to quite a number and they have always fulfilled their promises to the letter. In writing to any firm I always mention where I read their advertisement.

(Signed) James Selby.

Prize Competition

DON'T overlook the announcement on pages 36 and 37 of the big prize competition. There is something in this competition for every one of our readers. The prizes are exceptionally generous. With seven First Prizes, seven Second Prizes, and seven Third Prizes, besides many more "Honorable Mentions," there is certainly room for all.

Get busy now. This competition closes February 5th, which gives you just time enough to get your photos taken and your material into shape.

We Want to See the Work You are Doing

IT will be quite a feather in any builder's cap to have his work win a prize and be illustrated in the March AMERICAN CARPENTER AND BUILDER.

We are proud of the work our readers are doing and we want to see it illustrated.

Again we wish you a Happy New Year.

Very cordially yours,
Editor, AMERICAN CARPENTER AND BUILDER.

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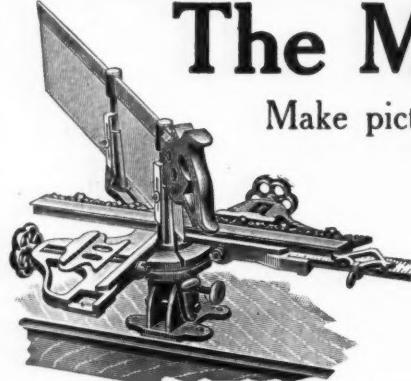
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January

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**The
World's Greatest
Building Paper**

American Carpenter and Builder

Entered as second-class matter July 1, 1905, at the postoffice at Chicago, Ill., under the act of Congress of March 3, 1879.

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No. 4

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Furnished on application. Advertisements, to insure insertion should reach our Chicago office not later than the 20th of the month preceding date of publication.

WE wish you all a Happy New Year!



Overshot the Mark

APROMINENT architect says the many model tenements, built in New York City by wealthy people for the benefit of the poor, have given scant relief to the very poor, because this class cannot afford to live in them.

The model tenements are luxurious by comparison with the homes in which the poor actually live, and the rentals are remarkably low considering their cost; still they are too high for the class which most needs them to pay.

The model tenements are occupied by settlement workers, social investigators, writers, artists, professional people and others who would not go into the localities where these buildings stand if it were not

for the inducement of such superior apartments at a price which to them appears small.

It is true that the wealthy people whose benevolence has provided the model tenements could rent them for half the rental asked, and maintain them without serious burden to their estates, but from a general economic standpoint this would not be good policy. It would discourage legitimate investors, who must provide the largest percentage of dwellings for the poor, from putting up buildings of any kind.

The legitimate remedy is for those who would really help the poor to erect buildings that are comfortable and sanitary, but not too nice. As the architect says, they must find the middle ground between healthful and too luxurious living conditions.

Not that it would not be desirable to have all the people enjoy commodious rooms, roof gardens, sleeping balconies, telephones, etc., but they cannot afford it. If everything is made plain, the apartments can be given the essentials of air, light and sanitary plumbing, at a rent no greater than is now paid in ramshackle and unsanitary buildings.

The building and administrative laws of cities can guard against overcrowding and bad ventilation, and can gradually banish the most objectionable tenements.



The New Capitol at Delhi

GREAT BRITAIN, it seems, is confronted by a perplexing architectural problem in building the new capitol at Delhi, India. Is the visible symbol of the empire's majesty and might to be a monument of Indian art or is it to be mainly western in type? Those who answer that it should conform to the Indian type find themselves still face to face with this problem: If it is to be Indian, shall it be predominantly Moslem or predominantly Hindu? For there are many styles in India, and a characteristic architecture would fuse their salient features.

The site of the new capitol is unsurpassed. It is surrounded by some of the masterpieces of Moslem architecture. The opportunity is equal to the problem, and something like genius will be required to devise a new type which shall be a fit symbol of empire.

PRIIZE COMPETITION

WE are proud of the work being done in the building world by the Big Family of Readers of the American Carpenter and Builder. Not only are they carrying out faithfully and well the large and important contracts intrusted to them by leading city architects, but more encouraging still they are supplementing the professional architects in those vast reaches of our broad land—the smaller cities, the towns, the country places—**where specialized architectural service is unknown; and there are** doing their best work, drawing their own plans for their own and their men's guidance and putting up

substantial, modernly equipped structures of which no community need feel ashamed.

We want to illustrate the magnitude, quality, and great variety of building work being done by Our Folks. Accordingly we announce this **Big, Seven-Part Prize Competition.** Here is something for every one of our readers. The Editors want **you** to have the Honor of seeing some of **your** best work illustrated here. The Prizes are worth working for, too. Go out with your camera or take the photographer along with you, and snap your last job. You can make it win a fine prize for you.

21 Valuable Prizes Will Be Given Away—Maybe More

Here Are the Competition Subjects:

First, Second and Third Prize in Each Class

(Class A.) Best Designed Residence Planned by a Reader of the "A. C. & B."

Each entry should include photo of completed Residence, Sketch or Blue Prints of Floor Plans and 250-word Statement of Materials and Equipment Used.

(Class B.) Best Designed Church, School, or Business Building Planned by a Reader of the "A. C. & B."

Each entry should include photo of completed Structure (also an interior photo if possible), Sketches or Blue Prints of Floor Plans and 250-word Statement.

(Class C.) Finest Dairy Barn or other Farm Building Planned and Built by a Reader of the "A. C. & B."

Each entry should include photos, both outside and inside and statement of size, modern equipment used, how arranged, cost, etc.

(Class D.) Largest or Most Costly Structure Built Complete by a Reader of the "A. C. & B."

Each entry should include photos and detailed statement of size, cost, special equipment, by whom designed, how long in building, number of men employed, etc.

(Class E.) Most Modernly and Completely Equipped Residence Planned and Built by a Reader of the "A. C. & B."

Each entry should include photos and Floor Plans and detailed statement of all special or advertised materials and equipment used.

(Class F.) Finest Piece of Carpentry Work or Cabinet Making Done by a Reader of the "A. C. & B."

Tell just what the work is and how you did it. Illustrate with good photograph.

(Class G.) Most extraordinary Piece of Work Pertaining to Building not usually Classed as Carpenters' Work, done by a Reader of the "A. C. & B."

This may be Heating, Plumbing, Lighting, Painting, Concrete Work, Masonry, Bridge or Road Building, Landscape Gardening—in fact, anything interesting you are called on to do as a builder. Each entry should include photo or drawing and clear statement of the proposition and how you handled it.

This Big Prize Competition Will Close Wednesday, February 5th. You Have Just Time Enough, If You START NOW.

Prize Winning Plans, Photos and Articles Will Be Published in the March American Carpenter and Builders, Our Big Spring Building Number.

SEE OPPOSITE PAGE FOR PRIZES

Address all communications to Prize Competition Editor American Carpenter and Builder, 178 W. Jackson Blvd., Chicago



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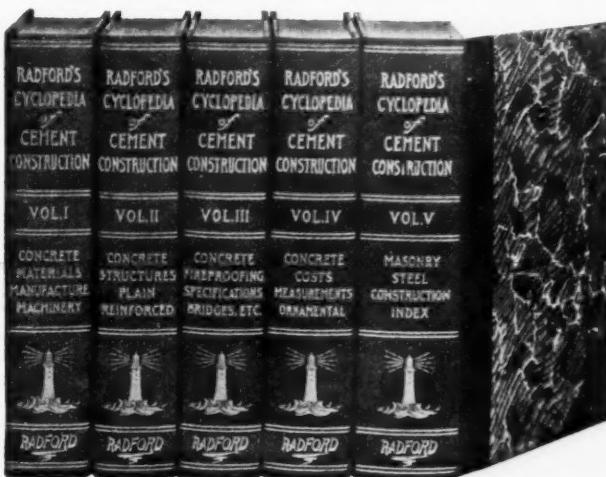
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These books will enable builders and contractors to show a wide variety of House Designs to the prospective home builder, forming an elaborate catalog or album of the houses they can build for them.

Seven of these business-getting Building Plan Libraries will be given away as 7 Third Prizes.



We are glad to offer these valuable building Business Prizes to 21 of our readers who submit the best entries as outlined on the opposite Page.

We want to hear from every one of our 40,000 readers and see the sort of work you are doing.—Editor American Carpenter and Builder, Chicago.

7 Third Prizes

Each consisting of

this Seven Vol. Builders' Plan Library

CONCRETE CONSTRUCTION

Frames for Concrete Block Buildings

By Chas. Cloukey

THE great popularity and almost universal introduction of the cement block as a building material, has unconsciously raised the question of proper and economical door and window frames for such buildings. Thousands of men are engaged in making commercial blocks in a small way, but the great majority of them are all at sea when a prospective builder asks for information as to how the frames of one of these buildings should be made. If the customer is within reach of a mill-work concern he can have his particular needs figured out and supplied from that source, but in many cases the local carpenter has to design the frames and has not that large experience of the mill man to guide him to both efficiency and economy, and so is apt to make bunglesome and expensive frames.

There are several distinct classes of frames used in buildings made of cement blocks, and it is the purpose of this article with the accompanying drawings, to cover this ground with practical information which will enable the builder to suit his needs by varying some of the dimensions to suit his special size of block.

Drawings Based on Use of 8 by 10 Inch Blocks

In all of the drawings submitted, the blocks are 10 inches thick and made to lay 8 inches high, while all of the different members of the frame are proportioned to this size; so that if the reader keeps this in mind he will be looking at a small picture of the real frame and wall in their relative sizes. It must be kept in mind that all of the sizes given are not arbitrary, but many of them may be varied to suit different blocks or to conserve the use of such material as the builder may have to use in the construction of the frames. These points will generally be noted when taking up the discussion of the different styles of frames.

Box Frame for Furred Walls where Rabbeted Jamb Blocks are Used

Fig. 1 shows a block wall with 1-inch furring, and lath and plaster on the inside, making a total thickness of $11\frac{3}{4}$ inches. The rabbet in the block leaves an offset of $2\frac{1}{2}$ inches each way and the reveal outside of the hanging stile is 2 inches, as shown at *a a*. This leaves a space for mortar on two sides of the

box and is a feature calculated to make an excellent weather stop.

Instead of bringing the whole weight-box in to the plaster line, the width of the pulley-stile, b , is gauged so that an ordinary window stop $1\frac{3}{8}$ inches wide will cover the joint between the box and the sub-jamb c . This is particularly for frames having a hardwood finish on the inside where the common lumber of the box must be covered from the sash out to the casing with the finishing wood.

The narrow sill is used in all of the frames shown here, and for use in buildings where the stone sill is made the full thickness of the wall, they are just as good and much cheaper in material and labor than the ones which extend from the inside of the box out

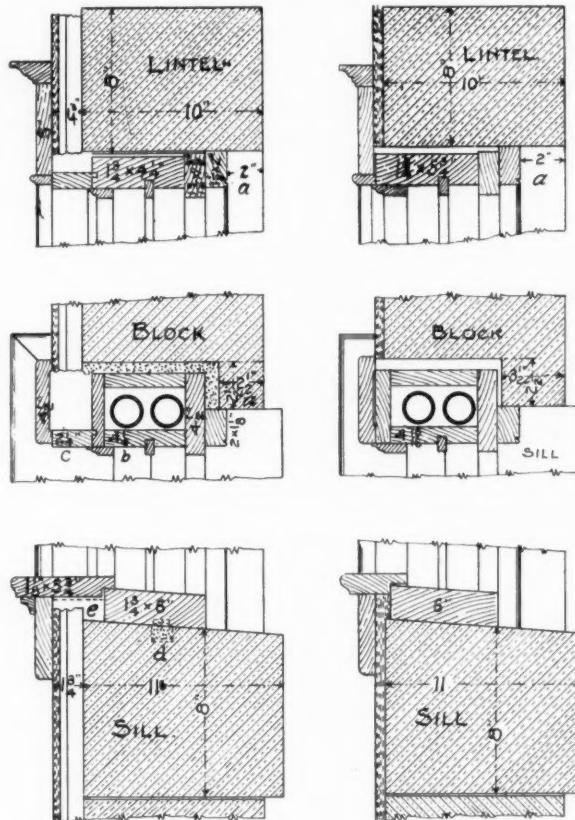


FIG. 1. Box Frame for Furred Walls
FIG. 2. Simple Frame for Unfurred Walls
 Frames to Use With Rabbeted Lumb Blocks

beyond the brick mould or hanging stile. If the block is made with a groove, as shown at *d*, the sill may also be grooved and filled with a weather strip or with mortar. However, a good practice is to leave the sills both plain and when plastering the inside, fill in as shown at the dotted line *e*.

These frames are drawn for windows $1\frac{3}{4}$ inches thick, and if windows $1\frac{3}{8}$ inches thick are used, the box will have to be reduced in width and the sub-jamb widened or else the window stop will have to be made

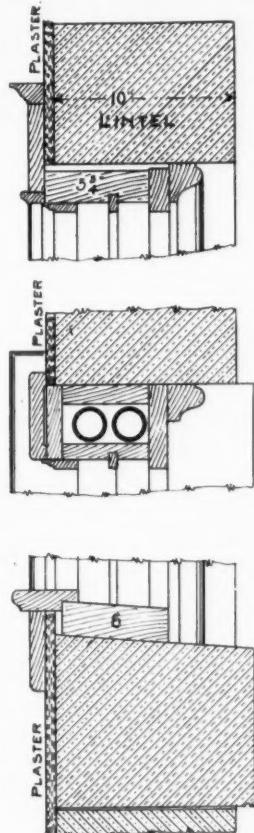


FIG. 3.
Box Frame for Plain Block Wall

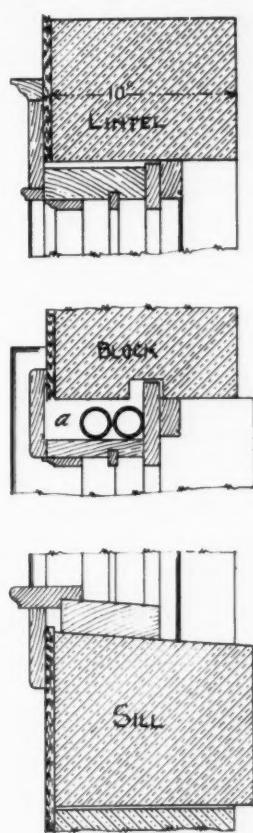


FIG. 4.
Grooved Blocks Form Back of Weight Box

wide enough to cover the joint, as shown in the figure. If the windows are very large the box may be widened a $\frac{1}{2}$ inch in the wall to accommodate the heavier weights.

Simple Box Frame for Unfurred Walls, Using Rabbeted Jamb Blocks

Fig. 2 shows a simple box frame, made thick enough to fill the wall by giving a $2\frac{1}{2}$ -inch reveal on the outside and having only the $\frac{1}{2}$ inch for plaster on the inside. The rabbet in this block is 1 inch less than in Fig. 1, so that the frame sits closer to the block and at the same time shows a wider reveal to the moulding at *a*. It will be noticed that the side members of this frame are wider than the first, but the front and back are the same. In all of the box frames the sills are made of a width to permit the inside casing of the box to extend down on the inside and nail without making a cut in the sill, while the same is true of the moulding on the outside. This allows

for making the gains across the sills without any hand work if the frames are made in a mill, and requires the least possible labor if made by hand.

There are certain variations of this frame that might seem desirable if it was to be painted, such as rebating the inside casing and using a narrower window stop. If the finish is oil or hardwood, then the drawing is the cheaper way.

Box Frame in Plain Block Wall

Fig. 3 shows a box frame set in a plain block wall, having neither groove nor rabbet, and the width or rather thickness of the frame is determined by the amount of reveal desired on the outside. In this case a heavy moulding is shown and the same may be used on any frame for blocks, but of course it will vary the thickness of the frame or the width of the reveal. It is well to keep in mind a convenient place to hang screens, storm sash or shutters, and the flat brick moulding provides such a place.

Grooved Blocks Form Back of Weight Box

Fig. 4 shows a frame that has become quite popular in some sections of the country, and it is both economical and efficient. In this case the block wall itself forms one side of the weight box and the blind stop extends into the groove in the blocks, making an excellent weather stop. A thick head is shown in this frame, but this really is not necessary unless the frames are exceptionally wide. The sill is made narrow enough to get out of a 2 by 6, and does not reach to the inside of the pulley stile, but this is one of the economies in frame making and is worth while to remember.

Some builders prefer the outside moulding made wider, so as to come on line with the inside opening of the frame, and it is not a bad idea, as it leaves the width of the screen opening the same as that of the window.

Cheapest Style Frame for D. H. Windows

Fig. 5 shows the simplest and cheapest style of window frame for block walls. This frame does not provide for weights, and the simple quarter-round moulding is used for outside moulding and for inside window stops. This is a suitable frame for double sash or check-rail windows in warehouses, dungeons, garages and such like buildings. If the walls are thick and there is no inside casing, the window jambs need be only just wide enough to receive the window stops on the inside of the sash.

Frame No. 5 may be made into a plain rail window frame by leaving out the parting stop and putting a flat stop under the upper sash; this will take up $\frac{1}{2}$ inch less room in the thickness of the frame.

Plank Frame for Pivoted Sash

Fig. 6 illustrates a plank sash frame for a pivoted sash and it is very cheaply made out of 2 by 6 material, by rabbeting each side so that a $\frac{1}{2}$ -inch strip

is left in the middle as wide as the sash is thick. The sash is hung in this space and stopped with quarter-round, which laps over against the rabbet. The moulding is fastened to the sash on the upper half of the inside and the lower half of the outside, so that when the sash is closed there is a double stop. The sill and

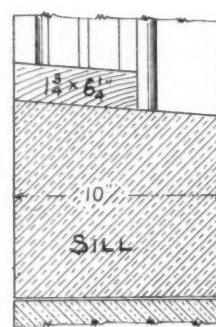
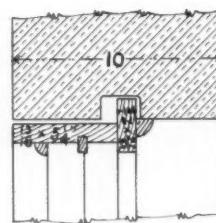
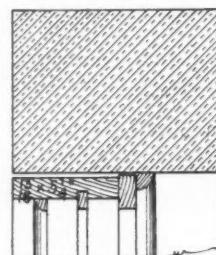


FIG. 5.
Cheapest Frame for D. H.
Windows

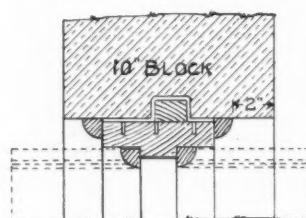
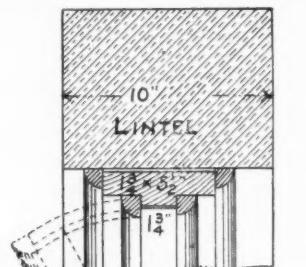


FIG. 6.
Plank Frame for Pivoted
Sash

the sash are both rabbeted, and this makes a very snug frame when finished. This style of jamb may be finished on the outside with the regular moulding and on the inside with the hardwood trim, if it is desired to have a pivoted sash in the better class of buildings. This style of frame is often used for openings high up out of the way, where it is easier to open and shut with a cord than by other means.

Best Sash Frame

In Fig. 7 we find a sash frame to correspond with the box frame shown in Fig. 1. If we were building a bank building, city hall or schoolhouse having check-rail windows, plate glass sash and a good front entrance, we would use the details shown in Figs. 1, 7, 9 and 10.

The sash frame in Fig. 7 is laid out to take the same width of sub-jamb, and stops as the corresponding box frame, and it is quite a help in getting out the trim for a building to have all of the stuff for the windows and sash of the same width. If the frame

was varied in thickness for the box frame, then the same change should be carried through the sash frame. It will be noticed that the position of the sash in the jamb is regulated by the width of stop used to cover over onto the sub-jamb, so that if the sash is thinner, the rabbet will have to be narrower or else a wider stop will have to be provided.

Fig. 8 shows a common plank rabbeted door frame which does not differ from that for a brick wall except for the weather strip on the back of the jamb, and even that is often specified for frames in brick walls. There is no wooden sill shown for these frames, for it is taken for granted that a man who makes cement blocks will also make his sills and lintels of the same materials.

The width of the jamb is determined by the finished thickness of the wall, and the desired reveal outside of the brick mould. The weather strip can be nailed on the back of the jamb at any point to fit the groove in the stone.

Mullion Transom Front Entrance Frame

Fig. 9 shows a vertical section through a mullion transom front entrance frame, detailing the head and

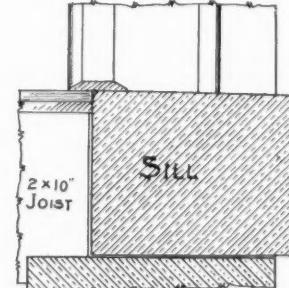
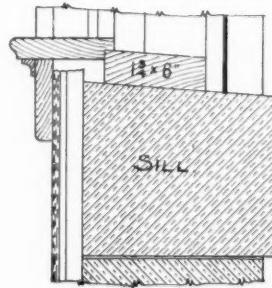
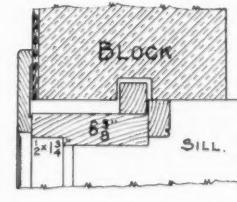
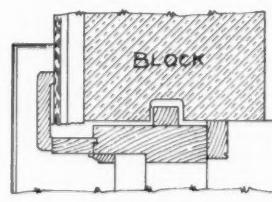
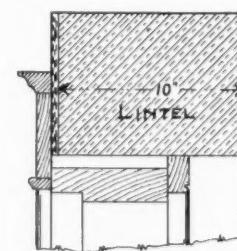
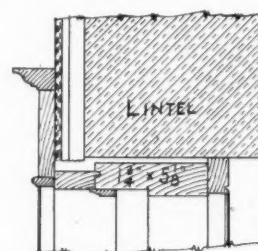


FIG. 7.
Best Style Sash Frame

FIG. 8.
Plank Rabbeted Door Frame

transom bar. The jambs are rabbeted for the door and the same for the transom over the door. The dotted line shows the rabbet for the side lights which are made deep enough to allow for the 1 3/8-inch stop to cover from the inside of side light to the inside

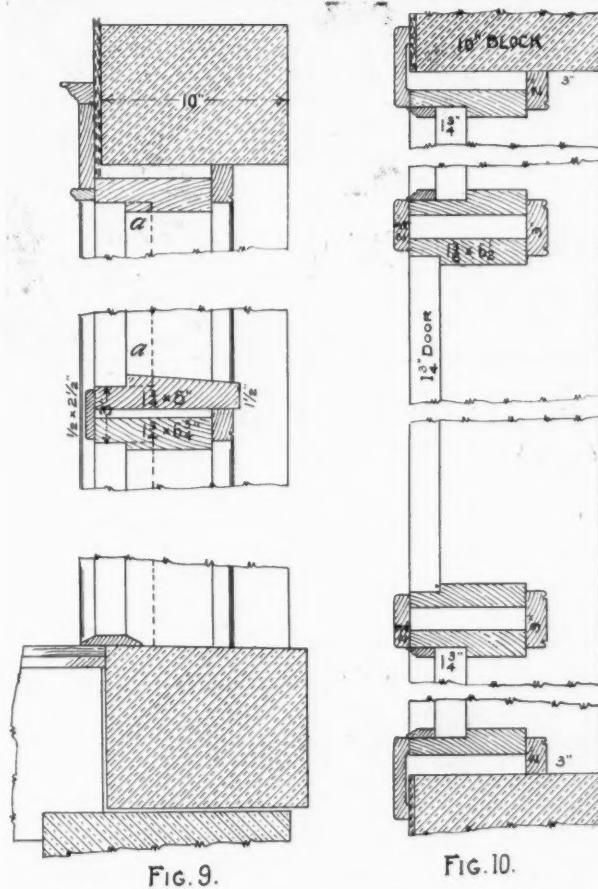


FIG. 9.

FIG. 10.
Horizontal Section
Mullion Transom Front Entrance Frame

casing, which is better shown in the cross-section of Fig. 10.

Some architects have designed side lights and their transoms to stand flush with the edge of the jambs the same as the doors, but they do not look right, and the practice of setting them in the middle of the jambs and stopping both sides is all right, unless the door part of the frame has rabbeted jambs. In this latter case the door and side light trim will not line up by $\frac{1}{2}$ inch, and that will not look right either. So we either rabbet the whole frame or leave it all plain for stops. Like the other door frame shown, this entrance frame may have jambs of any suitable width, and where the mullions are made up strong, like the ones shown, lumber $1\frac{1}{2}$ inches thick is plenty heavy enough for the jambs. If plain jambs and stops are used, then $1\frac{1}{4}$ -inch lumber is thick enough.

Adapt these Details to Your Work

If the builder will study this series of details in connection with the block he is producing, and consider the needs of the building to be put up, he will be able to adapt the proper one to his use by suiting the dimensions of the different members to sizes of his blocks. He will be able to figure out his frame and window openings from the glass sizes desired, and his carpenter can make the frames with the assurance that when they are done he will have a job along the lines

of the best mill practice, even though he is not within a hundred miles of a house trim factory.—Independence, Kans.

Concrete Manure Pits

Every farmer knows the great value of barnyard manure as compared with other fertilizers and he also knows, or should know, that a vast deal of it is wasted when piled in the open or stored in sheds or pens. The purpose of this brief article is to tell him how to preserve its full value at minimum cost.

When left in the open manure deteriorates in fertilizing properties and is washed away by rain.

Stored in sheds or pens, heating or "firing" takes place through lack of moisture. The remedy for these conditions has come with the advent of the concrete manure pit.

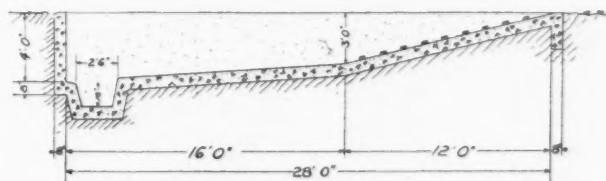
The concrete pit when properly made is waterproof, thus insuring the proper degree of moisture and also the preservation of liquid manure that formerly ran to waste.

Will a concrete pit pay?

The answer is that from 30 to 40 per cent of the strength of manure is wasted under the extravagant practices described above. Government experts have estimated that one load of manure stored in a concrete pit is worth from $1\frac{1}{2}$ to 2 loads of manure cared for in the ordinary way. This is a large percentage in favor of the concrete pit.

It is comparatively easy to handle manure from the pit and especially so when liquid manure is needed for the garden or truck patch. It can be pumped from a sump hole made at one end of the pit for that purpose.

In a majority of cases farmers will probably find the shallow manure pit the most convenient and practi-

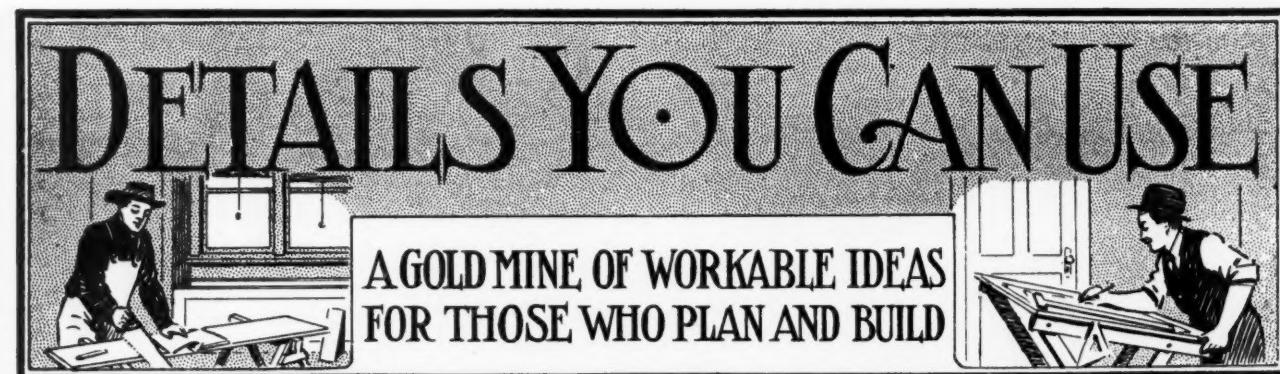


Section View of Shallow Concrete Manure Pit

cal. The sectional drawing shows the type of construction. These pits are especially convenient when manure is hauled to the fields frequently.

Where manure must be stored for a considerable length of time, larger pits or basins are required. Such pits are seldom made over 5 feet deep (in the clear at the deeper end) and are wide enough that the manure may be loaded on a spreader in the pit and drawn up a roughened concrete incline or run. The slope for such a run must not be steeper than 1 foot up to 4 feet out.

If a shed roof is required, insert in the top of the concrete walls while still soft, several $\frac{1}{2}$ -inch bolts, which should project about $2\frac{1}{2}$ inches above the wall, to which the roof timbering or cover may be fastened.



Simple Colonial Entrance; Also Double Deck Plate Rail

IN a great many localities a decided turning to the Colonial is now apparent. And this is as it should be since there is no style more dignified, attractive and interesting.

We are prone to claim the Colonial as a purely American style; and certain it is that our Colonial forefathers brought the Classical or English Georgian style to rare perfection.

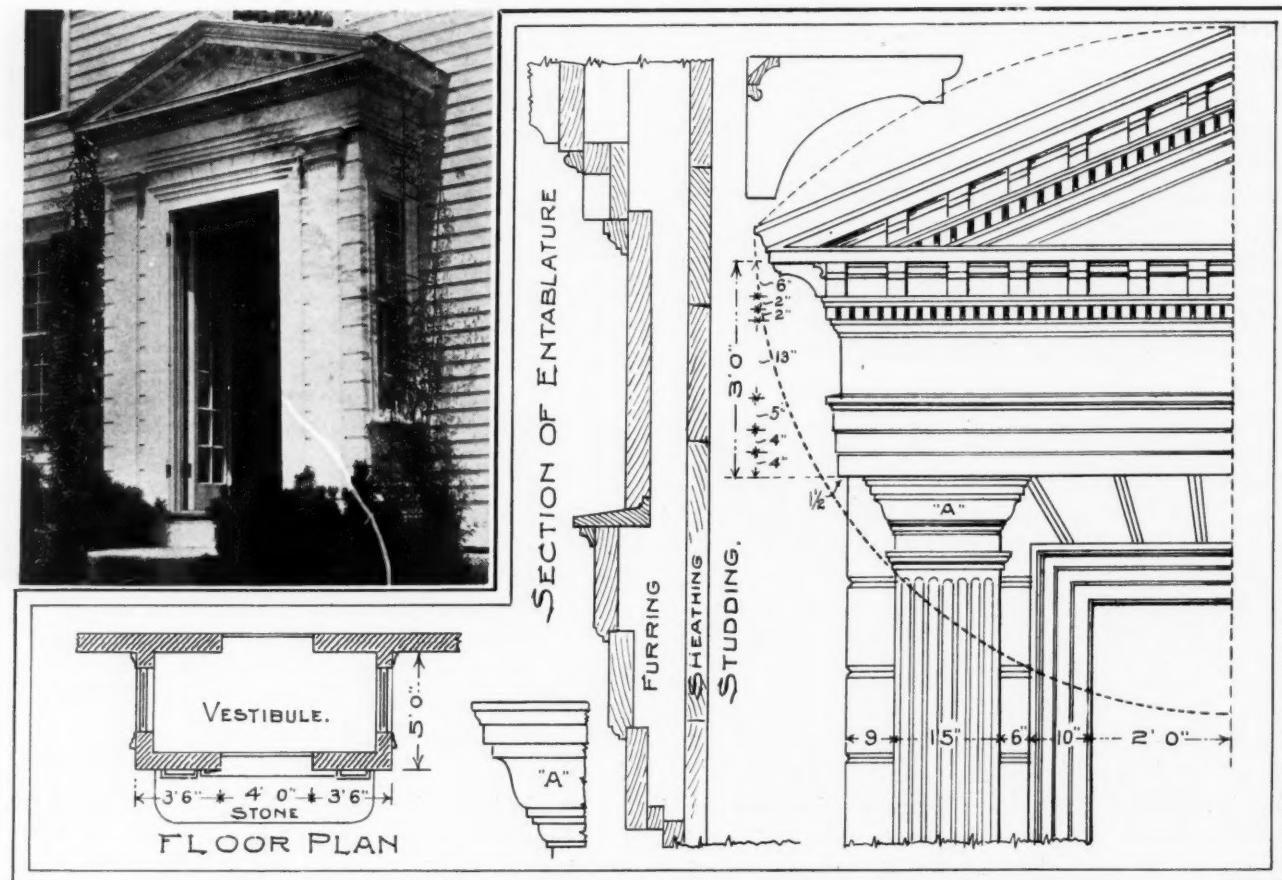
This entrance illustrated is on an old Salem, Mass., residence—remarkably well preserved and hung with an up-to-date glazed door. These details may be followed with the certainty that they are architecturally right.

The *Plate Rail* illustrated on the opposite page is

quite a novelty. We are told that the best people are not having plate rails built in so much now as half a dozen years ago. Yet still there are those who want them.

Where the dining room is small and the plates to be showed off are many the ordinary plate rail does not do; this two story, double decker plate rail is then wanted. This one is nicely designed. The lines are good. Many a housewife will say: "There! That's just the thing!"

The wood finish, including plate rail, in this room shown is white pine white enameled. Mahogany finished birch veneered doors with this make an ideal interior effect.



Photo, Plan, and Working Detailed Drawings of a Simple Colonial Entrance in Very Good Taste

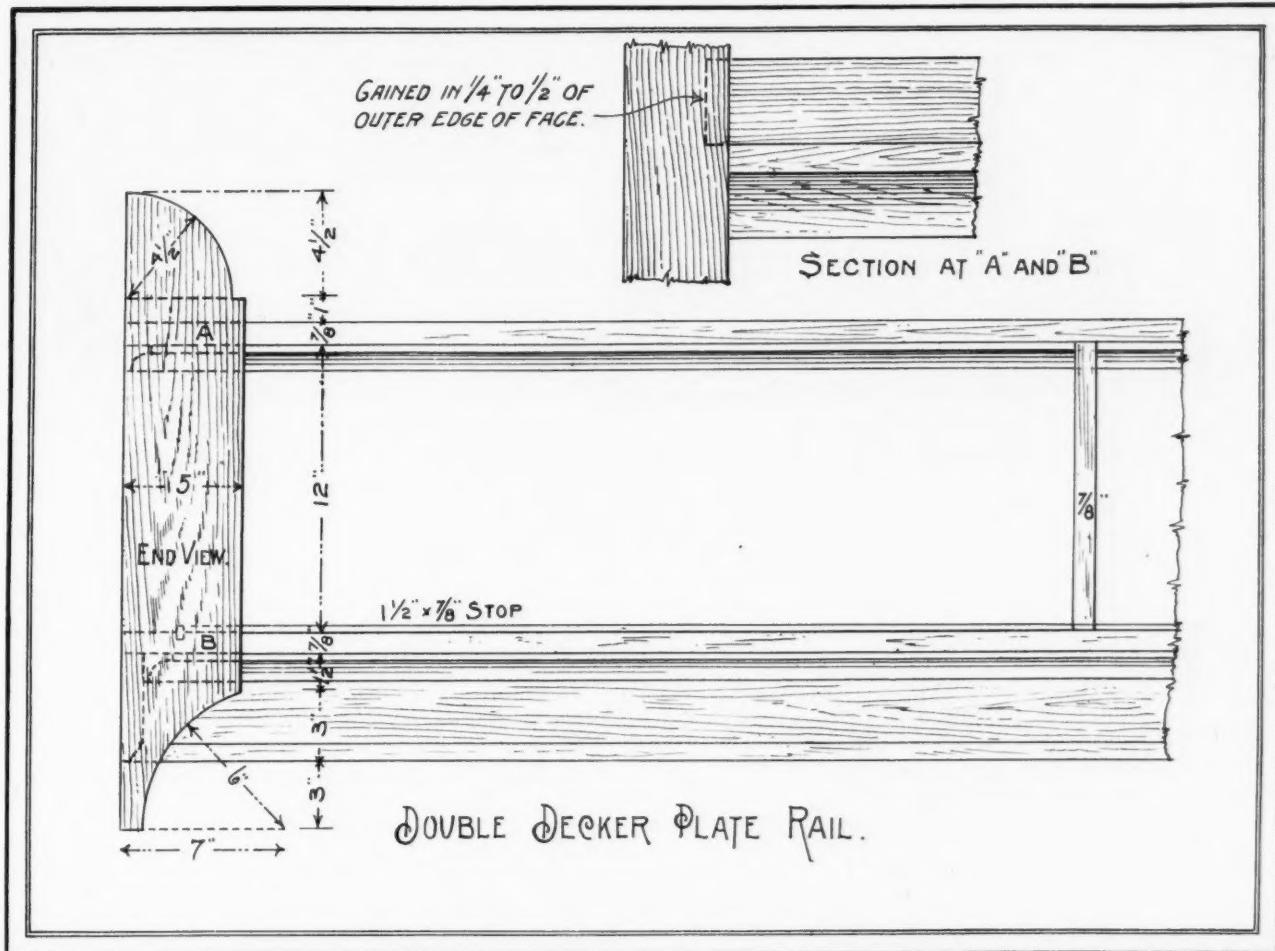
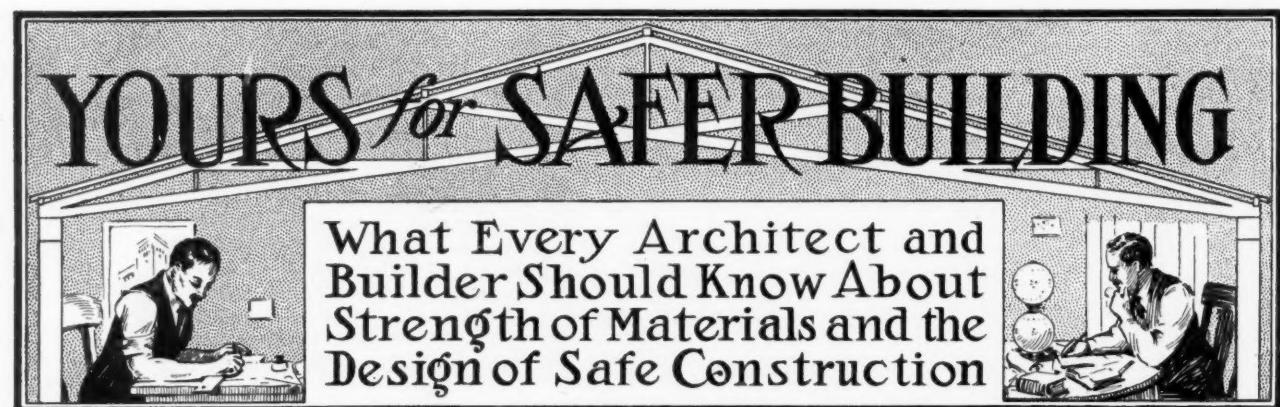


Photo and Detailed Working Drawing of Unusual Dining Room Feature



Noon Hour Talks by the Boss Carpenter

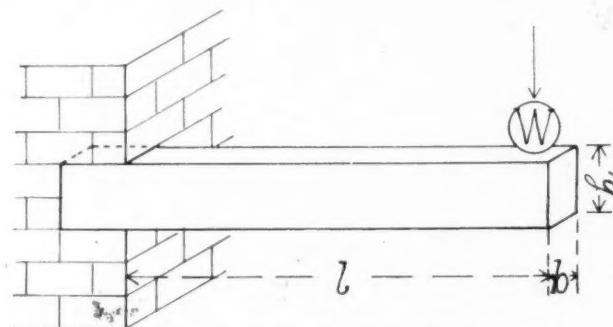
Talk No. 6

THE BOSS EXPLAINS HOW TO FIGURE CANTILEVER BEAMS, AND TELLS HOW CALCULATIONS SHOULD BE CHANGED WHEN TIMBER DOES NOT RUN FULL SIZE

ALTHOUGH the coming of cold weather had driven the men from their out-door meeting place, the chill of the air had not given them "cold feet" on the building calculation proposition. In fact, the members of the calculating squad were becoming even more thirsty for knowledge, and found that they were forming the habit of questioning themselves very frequently while at work. "Why did the architect do this?" Or, "Why did he choose that size of timber in that location?" They found that questions in regard to beams and girders could be checked or answered by the method already outlined by the Boss. Columns and posts were yet to come, and the men were assured that this part of the discussion would receive full treatment in due time.

"Today," said the Boss, "I want to tell you fellows about a kind of beam that is frequently used and which you should be able to figure. The beams which we have talked about so far were supported at each end by a wall, girder, post, or some kind of a solid member. Another kind of beam is supported at *one* end only. The other end sticks out into space, free to move up or down according to the kind of force which is acting on it. This kind of a beam is called a *cantilever*. Figs. 10 and 11 show the general outline of the two common cases of cantilever."

"First, we will figure the size of a cantilever which is to carry a single load at the end as shown in Fig.



10, and then find the sag or deflection of the end of the cantilever below the level of the fixed or wall end. After this, we will solve the same problem for a load which is distributed uniformly along the length of the cantilever."

The Boss had already constructed two figures similar to Figs. 10 and 11 on two opposite sheets of the "log book," and now commenced the solution of each case under the proper drawing.

"Let us consider a case where we have a yellow pine cantilever which is to project 4 feet out from an exterior wall, and is to carry a single dead load of

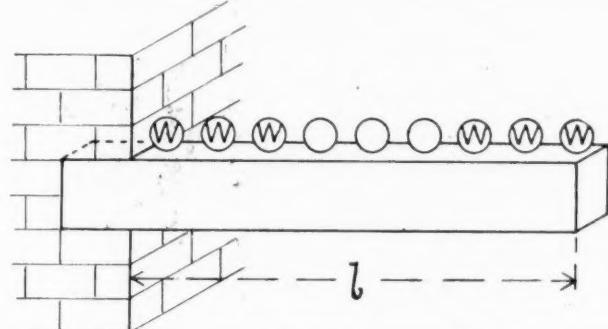


Fig. 11. A Cantilever Beam With a Uniformly Distributed Load

800 pounds at the end. If we desire to use a timber 4 inches thick, or two timbers 2 inches thick placed side by side and spiked together, what should be the depth of this timber for a working stress of 1,000 pounds per square inch?

"Now men," said the Boss, "you see that we still use our old friend Formula No. 1 in all of these bending calculations, and the letters still mean just the same as they did in the other cases, excepting that the value of M , (bending moment) has changed again and is different for each of these cases. In the first case, where the load is concentrated at the end, we will use $M=WL$, where W is the total load in pounds and l is the length of the cantilever in *inches*. In the second case, where the load is *distributed uniformly*, we will

use $M = \frac{1}{2} Wl$. As in previous problems, p will equal 1000 pounds per square inch, I will be $\frac{1}{12} b h^3$, and e is $\frac{h}{2}$, as described in Talk No. 1.

The Boss then wrote on the sheet on which Fig. 10 was drawn

$$\frac{pI}{e} = M, \text{ or, } \frac{\frac{1000 \times 1/12 \times 4 \times h^3}{h}}{\frac{h}{2}} = 800 \times 4 \times 12$$

This equation was then simplified by cancellation into the form

$$\frac{1,000 \times 2 \times h^2}{3} = 800 \times 4 \times 12$$

Solving for h^2 , he wrote

$$h^2 = \frac{800 \times 4 \times 12 \times 3}{2 \times 1,000} = 57.6$$

He then explained that 8 was the whole number, which when multiplied by itself would equal the product nearest to 57.6. For this reason, the Boss gave the answer to the problem as a 4-inch by 8-inch timber, or two 2-inch by 8-inch timbers fastened side by side.

"Now," continued the Boss, "if we wish to find the sag of the free end of this cantilever below the wall support, we use Formula No. 2 with a value of $K = \frac{1}{3}$. Then

$$d = K \frac{Wl^3}{EI} = \frac{1}{3} \times \frac{800 \times 48 \times 48 \times 48}{1,200,000 \times 170\frac{2}{3}} = \frac{14}{100} \text{ of 1 inch.}$$

"In this equation the value 48 is the length of the cantilever in inches, and the number $170\frac{2}{3}$ comes from the value $I = \frac{1}{12} \times 4 \times 8 \times 8 \times 8$. E is taken from the table given in Talk No. 5.

"Now let us apply the solution to the same problem considering the load to be distributed uniformly along the 4 feet of length, as might be the case in a projecting loaded platform which was supported by equally spaced cantilevers. Fig. 11 shows the general layout to be used as a basis for figuring. Remember that we use $M = \frac{1}{2} Wl$ in this case. Then, as above, we would have

$$\frac{pI}{e} = M, \text{ or } \frac{\frac{1000 \times \frac{1}{2} \times 4 \times h^3}{h}}{\frac{h}{2}} = \frac{1}{2} \times 800 \times 4 \times 12$$

Solving this equation for h^2 , we get 29 as an answer. This would give us 6 as the best value of h to use, since 6 times 6 is 36, and the nearest commercial size of material. Our answer would be a member 4 inches wide and 6 inches deep in this case.

"The deflection of the end for this uniformly loaded cantilever would be found by using Formula No. 2 with a value of $K = \frac{1}{8}$.

$$d = K \frac{Wl^3}{EI} = \frac{1}{8} \times \frac{800 \times 48 \times 48 \times 48}{1,200,000 \times 72} = \frac{13}{100} \text{ of 1 inch.}$$

In this equation all the values are easily seen except the number 72. This is the value of the moment of inertia (I) for a 4-inch by 6-inch cross-section, and is obtained from the formula $\frac{1}{12} bh^3$.

At this point, one of the men asked how the rule for maximum horizontal shear would be applied in the case of a cantilever. The Boss turned back in the "log book" to the pages used in Talk No. 3 and Talk No. 4. First, he referred to the rule which had been given in Talk No. 4 and designated as Formula No. 4. He showed the men that the only new quantity which would be needed in Formula No. 4 was the value of the greatest total shear J . He then turned back to Talk No. 3 and read the general rule that he had given them for finding J in any case.

"It may be well for us to solve Formula No. 4 for our problem today, in order that you fellows may become familiar with its general use," said the Boss. "According to our general rule for shear at any beam section, the greatest total shear in either of our cantilevers will be at the section where the cantilever is supported by the wall and be equal to the load on the cantilever. In either of the above cases, $J = 800$ pounds. Filling in Formula No. 4 as we did in Talk No. 4, we would have for our first case where the load is at the end, remembering that a 4-inch by 8-inch section was used,

$$Z = \frac{800 \times 16 \times 2}{170\frac{2}{3} \times 4} = 37\frac{1}{2} \text{ pounds per square inch.}$$

"In the case of the uniformly loaded cantilever where a 4-inch by 6-inch section was used we would have

$$Z = \frac{800 \times 12 \times 1\frac{1}{2}}{72 \times 4} = 50 \text{ pounds per square inch.}$$

"All of these numbers will be easily explained if you refer back to the method used in Talk No. 4. It is



seen from the values of Z , that there is no danger of a failure from shear in either of these cases.

"Before we stop our work today," said the Boss, "I want to put you fellows in mind again that your lumber will not always run full size. That is, a 2-inch by 8-inch joist will not be full 2 inches thick and 8 inches wide or deep as we have considered in our calculations thus far. The methods that I have given you are the ones commonly used, but where you want more exact results, the true size of the timber should be used in getting the value of I and in all other calculations which bring in the dimensions of the cross-section of the piece.

"About 95 per cent of the southern yellow pine on the market is classified and graded according to the rules of the Southern Yellow Pine Manufacturers' Association and runs from $\frac{1}{4}$ to $\frac{5}{8}$ inch smaller in dimension than called for by its nominal size. I am going to copy a table into the 'log book,' and would advise you to look at it carefully when making calculations. This table gives the *actual* sizes of the various nominal sizes of yellow pine lumber as given by the above named association. Where the letters S-1-S-1-E are used it means that the lumber is surfaced or planed on one side and one edge only, while S-4-S designates that the material is surfaced on all four sides.

TABLE SHOWING ACTUAL SIZES OF LUMBER DIMENSIONS IN INCHES.
(Southern Yellow Pine Manufacturers' Association.)

For S1S1E

Breadth	2 in.	4 in.	6 in.	8 in.	10 in.	12 in.
Depth						
4 in.	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$				
6 in.	1 $\frac{1}{2}$ x 5 $\frac{1}{2}$	3 $\frac{1}{2}$ x 5 $\frac{1}{2}$	5 $\frac{1}{2}$ x 5 $\frac{1}{2}$			
8 in.	1 $\frac{1}{2}$ x 7 $\frac{1}{2}$	3 $\frac{1}{2}$ x 7 $\frac{1}{2}$	5 $\frac{1}{2}$ x 7 $\frac{1}{2}$	7 $\frac{1}{2}$ x 7 $\frac{1}{2}$		
10 in.	1 $\frac{1}{2}$ x 9 $\frac{1}{2}$	3 $\frac{1}{2}$ x 9 $\frac{1}{2}$	5 $\frac{1}{2}$ x 9 $\frac{1}{2}$	7 $\frac{1}{2}$ x 9 $\frac{1}{2}$	9 $\frac{1}{2}$ x 9 $\frac{1}{2}$	
12 in.	1 $\frac{1}{2}$ x11 $\frac{1}{2}$	3 $\frac{1}{2}$ x11 $\frac{1}{2}$	5 $\frac{1}{2}$ x11 $\frac{1}{2}$	7 $\frac{1}{2}$ x11 $\frac{1}{2}$	9 $\frac{1}{2}$ x11 $\frac{1}{2}$	11 $\frac{1}{2}$ x11 $\frac{1}{2}$

For S4S

4 in.	1 $\frac{1}{2}$ x 3 $\frac{1}{2}$	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$				
6 in.	1 $\frac{1}{2}$ x 5 $\frac{1}{2}$	3 $\frac{1}{2}$ x 5 $\frac{1}{2}$	5 $\frac{1}{2}$ x 5 $\frac{1}{2}$			
8 in.	1 $\frac{1}{2}$ x 7 $\frac{1}{2}$	3 $\frac{1}{2}$ x 7 $\frac{1}{2}$	5 $\frac{1}{2}$ x 7 $\frac{1}{2}$	7 $\frac{1}{2}$ x 7 $\frac{1}{2}$		
10 in.	1 $\frac{1}{2}$ x 9 $\frac{1}{2}$	3 $\frac{1}{2}$ x 9 $\frac{1}{2}$	5 $\frac{1}{2}$ x 9 $\frac{1}{2}$	7 $\frac{1}{2}$ x 9 $\frac{1}{2}$	9 $\frac{1}{2}$ x 9 $\frac{1}{2}$	
12 in.	1 $\frac{1}{2}$ x11 $\frac{1}{2}$	3 $\frac{1}{2}$ x11 $\frac{1}{2}$	5 $\frac{1}{2}$ x11 $\frac{1}{2}$	7 $\frac{1}{2}$ x11 $\frac{1}{2}$	9 $\frac{1}{2}$ x11 $\frac{1}{2}$	11 $\frac{1}{2}$ x11 $\frac{1}{2}$

"You men can see very readily that both the value of I and c will be different than those used in our full dimension calculations. Likewise, our shear formulas where areas are used will have to be modified for exact results.

"Let us compare the results of our first cantilever solution today where we used full sizes, with a solution using sizes from the table above and see how our answer checks up. After that, re-calculate the deflection, using the trade size of material. We will use S-4-S lumber.

"Our first calculation would then be changed to

$$\frac{\rho I}{e} = M, \text{ or, } \frac{1000 \times \frac{1}{2} \times 3\frac{1}{2} \times h^3}{h} = 800 \times 4 \times 12$$

"Then, solving as before, $h^2 = 66$ (nearly), or $h = 8$ inches as before.

"We notice that the actual depth of a 4-inch by 8-inch timber as given in the table is $7\frac{1}{2}$ inches. If we still decided to use a commercial 4-inch by 8-inch cantilever, it would mean that we would be using a working stress in the material which is a little greater than 1,000 pounds per square inch. Whether this would be advisable or not would have to be decided by the importance of the structure, the degree of safety desired, the kind of loading, and the quality and degree of clearness of the lumber used. Loose knots and rotten material do not allow of much leeway in working stresses. A member composed of two commercial 2-inch by 8-inch joists would be smaller still and would have to be figured accordingly.

"The deflection for our cantilever with single load at end would then be based upon a $3\frac{1}{2}$ -inch by $7\frac{1}{2}$ -inch moment of inertia calculation. We would have a value of $I = \frac{1}{12} \times 3\frac{1}{2} \times 7\frac{1}{2} \times 7\frac{1}{2} = 123$ instead of $170\frac{2}{3}$.

"Then, as in our first deflection calculation,

$$d = \frac{800 \times 48 \times 48 \times 48}{1,200,000 \times 123} = \frac{20}{100} \text{ of 1 inch. (nearly)}$$

"Thus it is seen that the deflection differs quite a bit from our previous calculation. This percentage of error is quite large in the smaller sizes of timber, but decreases as the size of the timber increases."

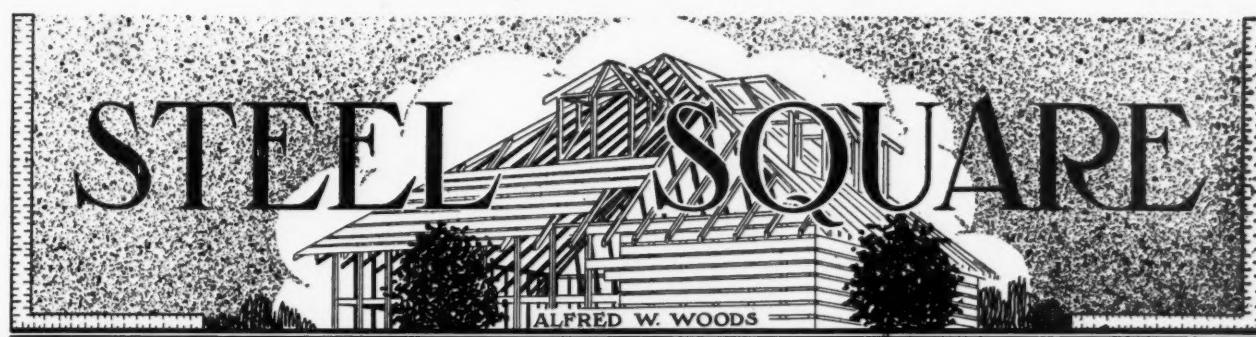
The Boss then copied another table into the "log book" and explained to the men that the numbers given in this table could be used to determine the amount of load that a *commercial* size of joist could be counted on to bear with a given working stress, when the *original* load had been calculated with the same working stress in a beam which was figured as *full size*, or as dimensioned in full inches. The original load should be multiplied by the number in the table which corresponds to the size of timber used.

FACTORS FOR REDUCING NOMINAL LOADS TO REAL SAFE LOADS.
For S1S1E

Breadth	2 in.	4 in.	6 in.	8 in.	10 in.	12 in.
Depth						
4 in.	67	74				
6 in.	100	100				
8 in.	71	8	82			
10 in.	100	10	100			
12 in.	71	9	9			
	100	100	10	10		
	73	84	9	92		
	100	100	10	100		
	75	85	92	93		
	100	100	100	100		

For S4S

4 in.	57	67				
6 in.	100	100				
8 in.	63	74	77			
10 in.	100	100	100			
12 in.	64	77	81	82		
	100	100	100	100		
	66	79	83	85		
	100	100	100	100		
	67	8	84	86		
	100	100	100	100		
	100	10	100	100		



Rafter Problems Solved by the Tangent System

SHOWING THE TANGENT SYSTEM FOR FINDING THE CUTS AND BEVELS FOR ALL OF THE RAFTERS FOR ANY SHAPED BUILDING

NOW, to start off with something good, not only for this year, but for all of the years to come—namely, to "do business on the square" both on straight lines and a round about way! The two combined is what we call the tangent system; and when the principles involved are once mastered, the whole subject of roof framing is made clear. However, the part we wish to dwell on in particular, is the laying of the foundation for the side cut of the jack and hip.

In Fig. 1 are shown these parts. The radius of a circle that touches the plate lines, represents the run, and the length of the plate from the corner to the point of intersection of the radius, represents the tangent. NOTE:—In this example (square corner) they are equal and here is where the trouble begins with the fellows who think they know all about the points involved in handling the square in framing the common hip and valley roof, but are stranded when they get on to any other shaped corner. They fail to realize where one part lets go and the other begins. Now here are the general rules that apply to any angle.

1st—THE RUN AND RISE WILL GIVE THE SEAT AND PLUMB CUT OF THE COMMON RAFTER.

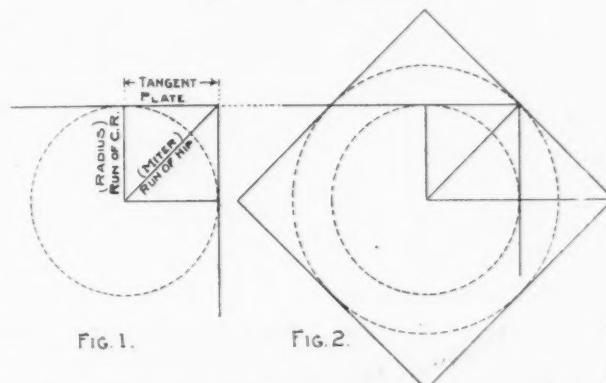
2nd—THE TANGENT AND THE LENGTH OF THE COMMON RAFTER WILL GIVE THE SIDE CUT OF THE JACK; THE SIDE ON WHICH THE LATTER IS TAKEN WILL GIVE THE CUT.

Now, passing on to the hip, we repeat the same operation, but the run of the hip is made to represent the radius; consequently the circle is enlarged and the tangent accordingly, as shown in Fig. 2. Proceed as above for the cuts. In other words, it is simply this: the parts to take for the common rafter are determined from the inscribed and that for the hip from the circumscribed diameter of the polygon of whatever it may be.

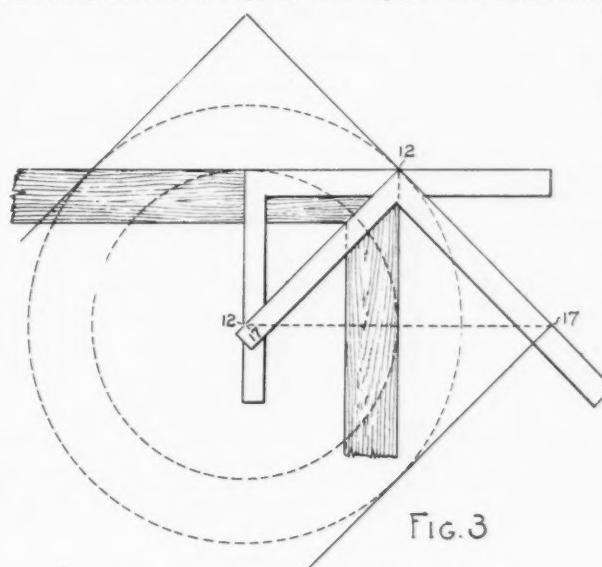
Happy New Year to the readers of the AMERICAN CARPENTER AND BUILDER in all the lands wherever found! We wish you well, and a prosperous year before you; may your fondest hopes for what the future has in store, be fulfilled and may your cup of joy runneth over. As for us, we feel pretty good, thank The Steel Square Man.

The side cut of the hip as here given, has reference to the unbacked timber, but if it has been previously backed, then the same figures taken on the square for the side cut of the jack will give the side cut of the hip. Now, as for the parts to take for the backing up of the hip, that may also be determined from the proportion of the tangent to that of the run. In the square corner, these parts are equal, and so that means

(Continued to page 49)



The Parts Used in Cutting Jacks and Hips by the Tangent System



Steel Square Applied Direct to Roof Corner

Birch—Its Uses and Structure

By R. S. Kellogg

Sec'y. Northern Hemlock and Hardwood Mfgs. Ass'n.

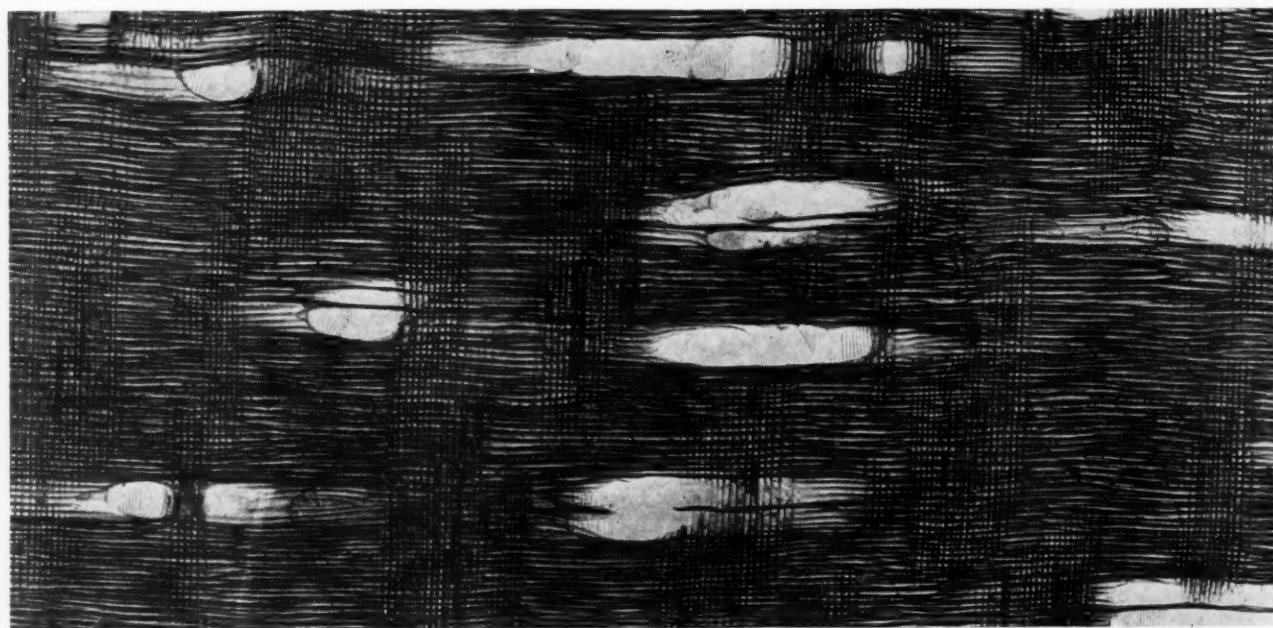
AS a group, the birches are common in the northern woods from Maine to Minnesota, and wherever they grow, they are almost without exception among the most striking and beautiful of our forest trees. The white, or paper birch, of Maine has been for many years the principal material used in the manufacture of spools, and a great deal of spool stock has been exported from that state to the spool factories of England. From the standpoint of lumber production, the yellow birch of the Lake States is by far the most important birch in the country. The U. S. census reports show an average annual production of approximately 450 million feet of birch lumber in the United States, of which fully one-half is manufactured from the yellow birch of Wisconsin and the Upper Peninsula of Michigan. Birch is also an important wood in the veneer mills of the north.

The wood of yellow birch is hard, close-grained, tough and strong. It has a specific gravity of .66 and the manufacturers figure that rough inch lumber in shipping condition weighs 4,000 pounds per thousand feet, the same as oak and hard maple. The sap-wood is yellowish, the heart-wood light to dark reddish-brown, from which comes the beautiful red birch which has no superior even in mahogany. Both sap-wood and heart-wood take a brilliant, satiny polish, while the fine, flaky quartered grain has a peculiar charm. The figure of curly birch is especially attractive. Stains of all kinds are taken easily and permanently, so that every effect from soft silver gray to the warmest red is readily produced, while a finish in the natural colors of the wood itself is often very desirable.



A Typical Yellow Birch in the Northern Forest

But few woods have such a wide range of usefulness as birch, for in addition to being one of the finest American woods for interior finish, it is also used for a multitude of diverse purposes. A recent report on the wood using industries of Illinois by the United States Forest Service states that over 60 million feet of birch lumber are used yearly in the factories of that state for more than 150 distinct purposes. A simple enumeration of



A Radial Section of Yellow Birch Magnified Fifty Times, Made by the Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.

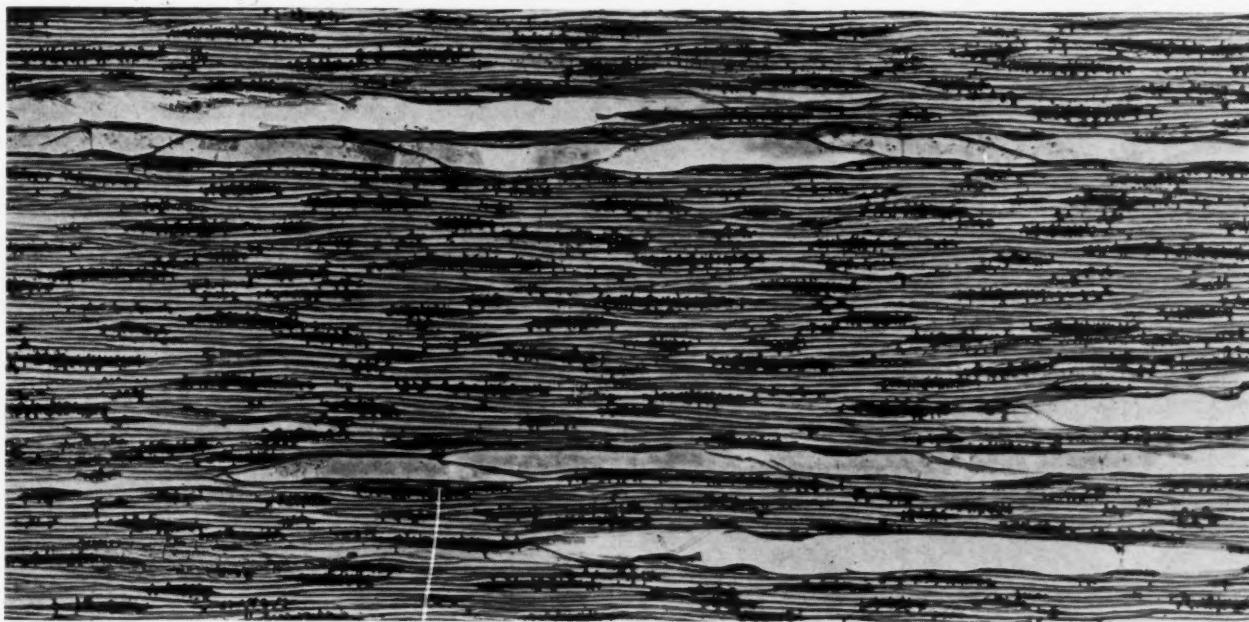
the more important groups in which birch appears is most instructive.

For example, approximately 59 per cent of the parlor furniture frames manufactured in Illinois are of birch. These are frames which are left in the white by the makers and sold to the upholsterer who stains and finishes the wood and adds the upholstering. Following down the list, we find that nearly 32 per cent of the couches, 20 per cent of the chairs and stools, 14 per cent of the wood used in bath room equipment, 13

line), will be the gauge point on the side of the rafter from which to remove the wood.

The tangent for the octagon corner is five-twelfths of the radius. Therefore the amount to set off, will be five-twelfths of one-half of the hip's thickness; for the hexagon, it would be seven-twelfths, etc.

Diagrams can be laid off to a scale of one inch to the foot run of the common rafter, or it can be full scale to one foot run only; the results of course will be the same.



A Tangential Section of Yellow Birch Magnified Fifty Times. Made by the Forest Products Laboratory, Forest Service, U. S. Dept. of Agriculture, Madison, Wis.

per cent of the store and office fixtures, and 11 per cent of the mantels fashioned in the Illinois factories are made of birch—the bulk of the material in every case coming from the Lake States. Birch also is used in considerable quantities for pictures, moulding, refrigerators, sash and doors, stairways, sporting goods, barber shop furniture, etc.

The ease and permanence with which birch takes the finest stains and finishes, or white enamel, give it an increasing popularity with architects and builders for use in high class apartments, hotels, residences, hospitals and office buildings. For many purposes, finish in the natural color of the wood itself is most attractive—while very rich effects can be secured by the use of red and curly birch.

One of the accompanying illustrations shows a mature yellow birch as it appears in the mixed hemlock and hardwood forests of the North, while the others, which are somewhat unusual, represent tangential and radial sections of the wood as seen when magnified fifty times. It is the fine, variegated figure in birch which constitutes one of its chief attractions.



Rafter Problems Solved by Tangent System

(Continued from page 47)

that all of one-half of the hip's thickness, set off on the seat cut line (from the edge of the rafter along the

For illustration, we will use the latter, as shown in Fig. 3. Here are shown the application of the square direct to the corner, as represented by the line drawings in Fig. 1 in proportion to one foot of the run.

To find the parts to use for any angle, may readily be determined by the use of two squares, as shown in Fig. 4; simply take a square in each hand and lay them

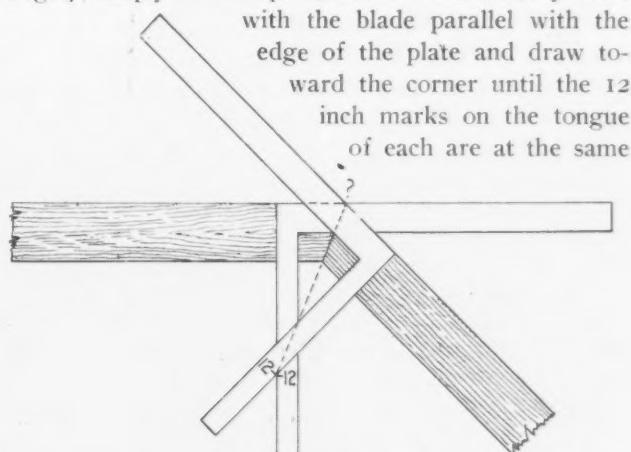


FIG. 4.
Simple way to Find Parts to use for any Angle

point, and the figures at the intersection of the blades will represent the length of the tangent; and the procedure is the same as given above.



MAKING POWER

Watching Jimmie

Part II

WHICH INTRODUCES THE HEROINE AND TELLS OF TWO, POSSIBLY THREE, CLEVER BUILDING AND WOODWORKING STUNTS

By W. D. Graves

I SEEM to have been very successful in arousing Jimmie's interest, for he was up at our house last night and insisted on discussing machine problems with me till I nodded in my chair. I was finally obliged to act on Harriet's suggestion and go to bed, while Lorna entertained Jimmie at cribbage. Lorna is a dear good little girl, almost as much comfort to me as a boy would have been, and always ready to relieve me of any burden when she can do so. The child looked tired, this morning, and declares that she can't understand why Jimmie is so obsessed with machinery. I was interested to know if he had drawn her into a discussion of applied mechanics, and how long he staid, but Harriet just then renewed her importunities for some cellar shelves, so I had to go and put them up.

A Concrete Cellar Wall Idea

The difficulties I encountered at that job tended to enhance the favorable impression made on me by an

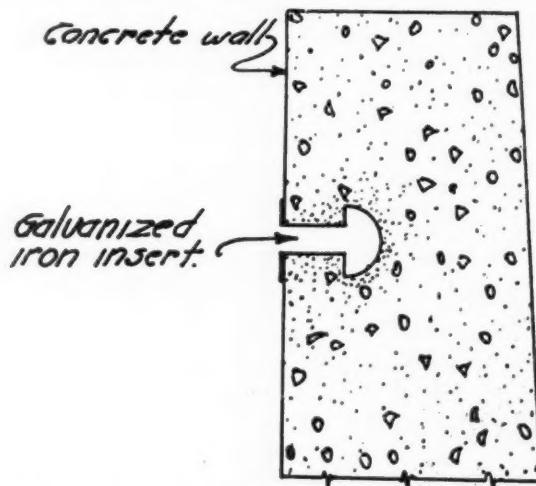


Fig. 1. Useful Insert for Inside of Concrete Cellar Walls

idea which Jimmie materialized in a little house he just built.

It was to insert, near the top of the concrete cellar walls, a horizontal channel of galvanized iron bent to the shape shown in section in Fig. 1. In this channel one may insert bolts whereby wooden shelf supports, or anything else desired, may be fastened to any part of the wall, just as the knives are fastened to a planer

head. It may also be used, somewhat as picture moulding is used, for holding specially made hooks whereon one may hang his ham or bacon—provided he is fortunate enough to have more than enough for breakfast.

When I reached the shop this morning—for, though I do not keep "union hours," I go there quite regularly now—I found that Jimmie had another "new one on me."

Duplicating a Moulding

It appears that, on a repair job which he is doing, there was occasion for a short piece of moulding to match on old one such as he could not find in stock. The way he went about making it looked a trifle slow at first glance, but it was certainly much quicker than working it out by hand, even had he possessed all the hollows and rounds the old time joiner used to carry, but which are rarely available now-a-days.

He first jointed up the edges of a strip of the required thickness and length, leaving it two inches wider than the mould. Using a short piece of the original for a pattern he then outlined it with a sharp pencil on each end of this strip, as shown in Fig. 2. He next set the fence back the whole width of the strip, measuring from the outside of the saw; then, placing the moulding strip face down with the edge marked W against the fence, he raised the table till the saw would just cut up to the outline, as shown at a, Fig. 3. This cut made, he set the fence up the thickness of the saw and, lowering the table a trifle, made the cut b; then, with another adjustment of the table, the cut c; continuing in the same way till the whole face of the mould was roughed out. He then ripped it through at C. This of course left the face but roughly shaped in a series of flat surfaces as wide as the thickness of the saw; but he easily worked off the round portions with a smoothing plane, and cleaned out the hollows with a piece of coarse sandpaper drawn tightly over the rounded edge of a block. It was a slow job as compared with the work of a moulder; but materially cheaper and quicker than grinding special knives for the purpose. Indeed, to one who remembers the time when mouldings were worked out entirely by hand, it appears comparatively expeditious.

Of course there are many moulds which would

WOODWORKERS PAY

afford two good bearing points on the face, and which could so be worked from a piece of the neat width. Also, there will be some which require beveling on the back; but Jimmie's machine has a tilting fence which, he claims, makes such beveling much more easy of accomplishment than by way of getting out a beveled block to place against the upright fence, as his father used to do. It occurred to me that he might have lessened the hand work of finishing if he had removed at each cut less than the whole, say half, the thickness of the saw—but perhaps the whole job would have taken as long.

I was amused to see Jimmie, when his strip proved to be so long as to strike the wall, simply swing the whole machine slightly askew of the building and proceed with his work. Verily the portable machine "holds over" the fixed one in some respects.

To Lay Out Parts for Wood Pulley

While he was finishing off his mould by hand, a process in which I didn't take much interest, I wand-

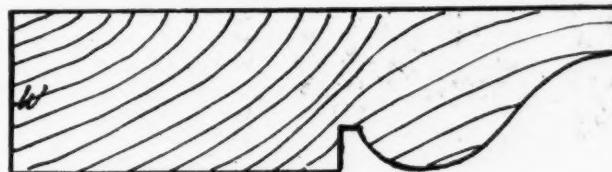


Fig. 2. Mark out: Moulding to be Duplicated on end of Strip—View Shows Waste Wood Cut Away

ered into the office and, Blaysdell being out, picked up the November number of the AMERICAN CARPENTER AND BUILDER, which Jimmie now considers a necessity. I was struck by an inquiry and answer in regard to the matter of finding the length of a cant for a pulley. Both question and reply indicate thorough knowledge and ability; but they set me thinking of the different methods by which different tradesmen will often arrive at the same results. While either of the writers would undoubtedly be able to build as good a pulley as could the average specialist in the pulley line, their way of doing it would be the builders way, and probably a little less expeditious than that of the specialist.

It is first rate idea for anyone to know how to ascertain the length of various chords by using the square; but, if one is going to build a pulley, the first thing he will need to do is to make a pattern for the cants, and any time spent in otherwise ascertaining the length would be merely wasted.

On the drafting table, or on some pieces of board laid across the trestles (only being sure that the pieces on which the center and the periphery are marked are

held relatively rigid) strike a portion of the outside and inside circles. If four cants are to constitute a layer, which will be only in case the pulley does not exceed twelve inches in diameter, lay the square with the heel to the center and mark across the end of the cant by the outside of each arm. In the vast majority of cases six cants will be the best number, and the length of one of these is laid off by using the radius as a chord. Simply prick off this length on either arc with the compass used to strike that arc, then mark the ends by a straight edge cutting the center and each of the pricked points. For eight or twelve cants the above mentioned ones would be respectively halved.

Having thus laid out the desired cant a piece of thin lumber or heavy card board is laid over it, marked in the same way, and cut to shape. The first laying out gives not only the length, but the width as well, as quickly as it can be found in any way; and a decided saving of lumber is apt to result if one has the pattern before he begins to cut the stock. Any one having to do with getting circles out of wood will find it mighty handy to remember that the radius of a circle is exactly equal to the chord of one sixth of the periphery.

As I write I see Jimmie coming toward our house again (it beats all how interested he is becoming in my chatter) and Lorna has rushed up stairs, leaving her mother to finish with the supper dishes. Poor girlie, she is doubtless tired of our mechanical talk and wants to avoid him. I noticed that she took along with her some freshly starched flummery, so she is probably going out to call on some of her girl friends. I must try to keep Jimmie sufficiently absorbed so that he won't notice her going; for, though she is so little and girlish, while Jimmie is taken up with manly things, they have been playmates so long that he might feel it his duty to go with her. Being a competent wood worker doesn't hinder Jimmie from being a gentleman.

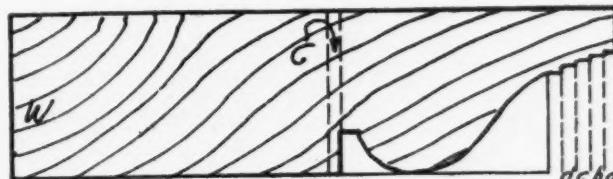
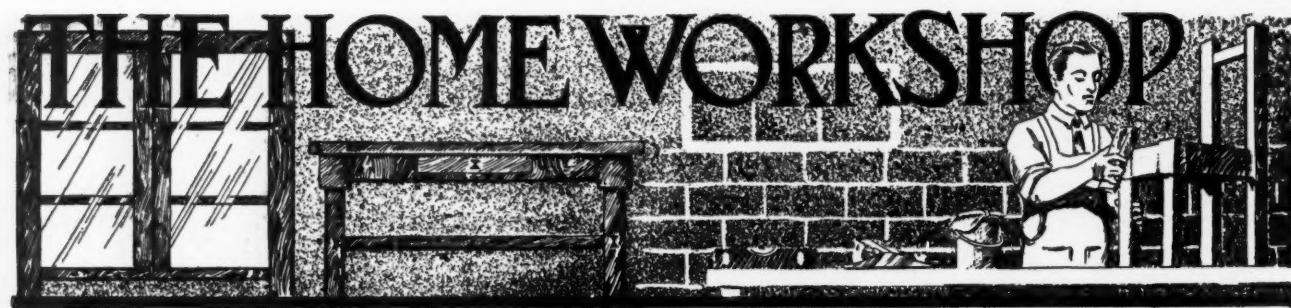


Fig. 3. Work the Wood Away With the Buzz Saw and Then Plane Smooth



Two Homecraft Dining Room Pieces

UNIQUE IDEAS IN STANDING WOOD TRIM ILLUSTRATED—DIRECTIONS AND DRAWINGS FOR MAKING THE DINING ROOM SIDEBOARD AND SERVING TABLE

By Ira S. Griffith

WE present this month a dining room interior with homecraft furniture—that is, furniture which is of such construction that it may be made readily in the home workshop.

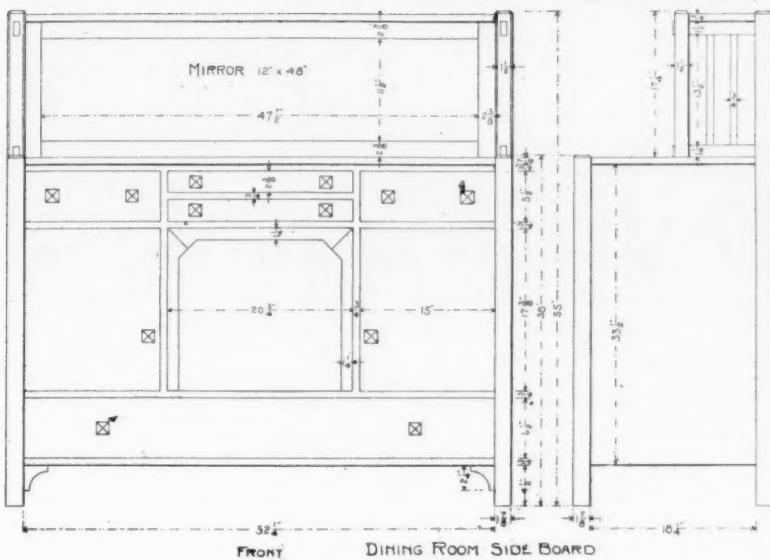
The wide-awake builder will do well to examine rather closely the detail of the interior finish of this dining room, as shown in the photo. The paneling is suggestive, being simple in construction as well as pleasing in its spacing and proportion of parts. It is the window and door casings, however, where the de-

signer has given us something truly worth examining. We are all looking for the new which is practicable. The expense of such a finish is not above the ordinary and its application to the wall will be as easily made as the conventional types of trim.

The table and chairs shown in the picture are easily made. Their design is rather too severe to be in keeping with the rest of the room. The serving table and sideboard, however, are especially well designed and are in thorough accord with the general



Dining Room Showing Unique Ideas in Standing Wood Trim and Ornamental Plaster Beams
COMPLETE DIRECTIONS AND WORKING DRAWINGS FOR MAKING THE SIDE BOARD AND THE SEWING TABLE
ARE GIVEN ON NEXT PAGE



treatment of their surroundings.

How to Make the Sideboard

The wood to be used for these two pieces should be governed by that used in the other parts of the interior. Plain sawed red oak is well suited to such a style. The following pieces will be needed for the sideboard:

STOCK BILL FOR SIDE BOARD

Front posts, 2 pieces, $\frac{1}{2}$ by $38\frac{1}{2}$ inches, S-4-S.
 Back posts, 2 pieces, $\frac{1}{2}$ by $1\frac{1}{2}$ by $55\frac{1}{2}$ inches, S-4-S.
 Top posts, 2 pieces, $\frac{1}{2}$ by $1\frac{1}{2}$ by 18 inches, S-4-S.
 Top shelf, 1 piece, $\frac{3}{4}$ by 11 by 56 inches, S-2-S.
 Top rails, 2 pieces, $\frac{3}{4}$ by $1\frac{1}{2}$ by 10 inches, S-4-S.
 Top rails, 2 pieces, $\frac{3}{4}$ by $1\frac{1}{4}$ by 10 inches, S-4-S.
 Spindles, 4 pieces, $\frac{3}{4}$ by $\frac{3}{4}$ by $14\frac{1}{2}$ inches, S-4-S.
 Mirror frame, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{8}$ by $49\frac{1}{2}$ inches, S-4-S.
 Mirror frame, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{8}$ by 17 inches, S-4-S.
 Mirror backing, 1 piece, $\frac{3}{4}$ by 12 by 48 inches, S-2-S.
 Top, 1 piece, $\frac{3}{4}$ by 22 by 56 inches, S-2-S.
 Ends, 2 pieces, $\frac{3}{4}$ by 19 by 54 inches, S-2-S.
 Drawer fronts, 2 pieces, $\frac{3}{4}$ by 6 by $15\frac{1}{2}$ inches, S-2-S.
 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 21 inches, S-2-S.
 1 piece, $\frac{3}{4}$ by $6\frac{1}{4}$ by 52 inches, S-2-S.
 Doors, 2 pieces, $\frac{3}{4}$ by $15\frac{1}{4}$ by 18 inches, S-2-S.
 Braces, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by $2\frac{1}{2}$ inches, S-2-S.
 Facings, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{4}$ by 18 inches, S-2-S.
 1 piece, $\frac{3}{4}$ by $2\frac{1}{4}$ by 21 inches, S-2-S.
 Drawer supports, 4 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 53 inches, S-2-S.
 1 piece, $\frac{3}{4}$ by $2\frac{1}{2}$ by 21 inches, S-2-S.
 6 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 18 inches, S-2-S.
 Shelving, 2 pieces, $\frac{3}{4}$ by 22 by 55 inches, S-2-S.
 Partitions, 2 pieces, $\frac{3}{4}$ by 22 by $6\frac{1}{2}$ inches, S-2-S.
 2 pieces, $\frac{3}{4}$ by 22 by 18 inches, S-2-S.
 Drawer sides, 4 pieces, $\frac{1}{2}$ by 6 by 20 inches, S-2-S.
 4 pieces, $\frac{1}{2}$ by $2\frac{1}{2}$ by 20 inches, S-2-S.
 2 pieces, $\frac{1}{2}$ by 7 by 20 inches, S-2-S.
 Drawer backs, 2 pieces, $\frac{3}{8}$ by 6 by 15 inches, S-2-S.
 2 pieces, $\frac{3}{8}$ by $2\frac{1}{2}$ by 20 inches, S-2-S.
 1 piece, $\frac{3}{8}$ by 7 by 52 inches, S-2-S.
 Drawer bottoms, 2 pieces, $\frac{3}{8}$ by 18 by 15 inches, S-2-S.
 2 pieces, $\frac{3}{8}$ by 18 by 20 inches, S-2-S.
 1 piece, $\frac{3}{8}$ by 18 by 52 inches, S-2-S.
 Back paneling, 4 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 33 inches, S-4-S.
 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 54 inches, S-4-S.
 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 23 inches, S-4-S.

2 pieces, $\frac{5}{16}$ by 13 by 30 inches, S-2-S.

2 pieces, $\frac{5}{16}$ by 5 by 18 inches, S-2-S.

1 piece, $\frac{5}{16}$ by 18 by 16 inches, S-2-S

There is nothing requiring especial attention in the construction, unless it be the doors and ends of the case. These doors, it will be noted, appear as one piece material. The ends appear similarly. To give strength and to prevent any tendency toward warpage in these it will be necessary to reinforce the tops over the circular saw using a cutter head of a width sufficient to allow the insertion of a reinforcing spline $\frac{3}{8}$ by 2 inches.

The backing except the exposed panel, and the drawer bottoms, sides and backs may be made of yellow poplar if desired.

How to Finish

A finish suitable for this piece, and for the serving table as well, is obtained as follows: Apply a coat of brown Flemish stain diluted by the addition of an equal amount of solvent. Allow this to dry over night then sand lightly with number 00 paper. Upon this stain apply a very thin coat of shellac. See that the shellac is quite thin or it will tend to produce a gloss. All that is wanted is to protect the highlights from the stain in the filler which is to follow. Now apply a coating of filler colored somewhat darker than that of the stain. Rub in and then off well. Allow this to stand over night then apply a coat of shellac, rubbing it down when dry with fine sandpaper. Upon this apply several coats of some good rubbing wax.

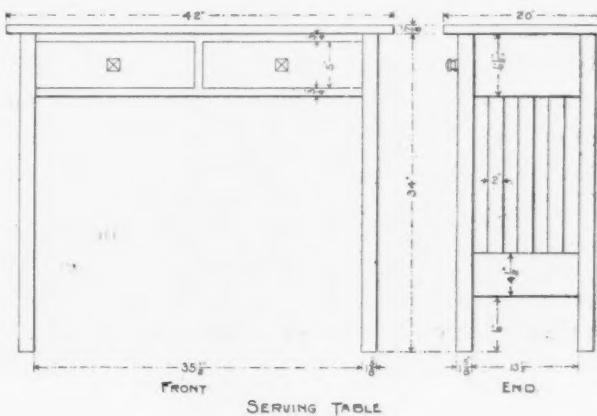
To Make the Serving Table

The serving table is in keeping with the rest of the furnishings of the room and is of comparatively simple construction. It should be made of the same materials as the sideboard and similarly finished.

STOCK BILL FOR SERVING TABLE

Top, 1 piece, $\frac{3}{4}$ by 21 by 43 inches, S-2-S.
 Posts, 4 pieces, $1\frac{1}{8}$ by $1\frac{1}{8}$ by 35 inches, S-4-S.

(Continued to Page 56)



To keep the coming in during the winter months

The Easy Way to Build Boats

GORDON PUTS THE OLDTIMER WISE TO BOAT BUILDING FOR CARPENTERS

By Fred M. Lally

BOAT building, eh?" said the Oldtimer as he stepped into Gordon's shop one bright, crisp morning and sought a place particularly near the stove, got out his pocket knife and commenced his inevitable whittling. Gordon and his two men glanced at one another but said nothing and the Oldtimer rattled on.

"You fellers are considerably different than what we used to be. Now-a-days, as soon as the weather forces you indoors, you got something right in view to take up and go ahead with. We used to fritter our time away during winter months doing this odd job and that one and not making much out of any of them. Now, whoever heard of a carpenter taking to boat building until just a few years ago? But I reckon there must be some money in that sort of thing. There certainly seems to be lots of boats on the river and bay during the season and seeing as this here town is so naturally located pretty near everyone can afford to have his own boat. Well, I hope they do, for it is good clean fun and not dangerous if you're properly careful."

"Say Gordon," continued the Oldtimer as he raised his voice to reach the ears of the boss who was busy over at the bench, "'pears to me, after glancing around this here shop of yours', that you are making ready to build quite a few boats this winter. I see you got lots of stock on hand—and say, what's those things over there?" and the Oldtimer pointed to several packed crates standing in a far corner of the shop.

Gordon's gaze followed the direction of the pointing arm. "Those crates, Daddy," said Gordon (the Oldtimer was always Daddy to Gordon) "oh, those crates are boat building frames. You know now you can buy what they call the knock-down frames—that's just the frame part, keel, etc. of the boat—from many big boat making places. You get the frames and do the rest of the work yourself. It isn't hard and it doesn't take you long—and it's easy to sell the boat and make a pretty fair profit on the job, too."

"Here I have four boat orders now," continued Gordon, usually not a talkative individual, but he was warming up to a vitally interesting matter to him, and there was no stopping his enthusiasm. "I have had them since early fall. You know, Daddy, I put in the winter season last year doing mostly odd jobs, general repairing and the like, and I made up my mind then that I would have some regular work to do this year after the out door season was over. Just what it would be, I didn't know at the time.

"Along last spring I saw an 'ad' in my building paper—the AMERICAN CARPENTER AND BUILDER—about carpenters and builders making boats in the winter time. It said to send for a catalog and so I did. The catalog came promptly and it gave descriptions and pictures of the boats that could be built, and told how the work could be done and how any carpenter could get and take orders for boats and easily build them. Well sir, I thought it all over and I sent away for other boat building concerns' catalogs and by the time I had gone through them, my mind was pretty well made up. I sort of figured out who'd be pretty good boat prospects and in the fall I commenced going after them about letting me build a boat for them. Southey was the first one I approached. We talked the matter over and I went up to his place one evening with all the boat catalogs I had and we went through them thoroughly. He decided right then just the sort of boat he wanted. I knew what the knock-down frame would cost me and it didn't take me long to figure just what the lumber and entire job would amount to. I quoted him a price and he said O. K. and gave me an order. That crate over there," and Gordon pointed to a large crate, "has the knock-down frame for his boat. This boat here is for the Shelten family and I have orders from both Joe Murphy and Countain—you know they're both great sailors."

Gordon paused and the Oldtimer chirped in with, "You're certainly a hustler Harry and I am mighty glad to hear you are going to have a good busy winter, and say, by the way," he continued as he walked across

to the door, "you haven't any objections if I tell Jim Scanlon about this boat business, have you? Jim is sort of down on his luck right now and just the other day was complaining to me about not being able to get anything to do. He's got a dandy little shop up back of his place and I should think he could make a go of this."

"Why certainly Daddy," Gordon replied to the Old-timer's question and going over to the door, he placed his hand upon the old man's shoulder and said to him, "Tell Scanlon to come down here and I will willingly explain this whole thing to him. Tell him that if he wants to, he can work around here for a few days until he gets the hang of things, although I don't think that will be necessary. He can easily pick this all up from the catalogs."

"Wait a minute Daddy," he called, as the Old-timer was making his way down the walk, "wait a minute and I'll get you a copy of my building paper—the AMERICAN CARPENTER AND BUILDER. Take it up to Scanlon and tell him to go through it thoroughly—he'll get some dandy ideas from it," and Gordon slammed the door of the shop and hustled into the house.

Any carpenter can easily do what Gordon has done, if he wants to. It's just a question of taking advantage of your every opportunity and the opportunity, in a great many localities, to develop a good thing out of boat building is there ready to be grasped. Launch and motor boat, small sail and cat boat, row boat and canoe constructing can be successfully done through the use of either the boat building patterns or the knock-down frames it is possible for any carpenter to secure.

Through the use of either the patterns or the knock-down frames, preferably the latter, you can build one or a number of boats and sell them before your spring building campaign opens. This, of course, depends considerably upon the size and type of boats constructed.

The carpenter of today making use of either the pattern or knock-down system will have no trouble in turning out boats, whether of the launch or motor boat class, small sailing boats, row boats or canoes that meet with every possible expectation of the buyer; that are as perfect in design, as attractive in appearance and as generally adaptable to all sailing conditions as though they had been constructed by the foremost pleasure craft builders in this country. And the best part of it for the builder is that the work at most will not represent a considerable outlay other

than the actual labor involved. In many instances, it will no doubt be found possible to sell, or hold a contract for the construction of the particular boat, before the work is commenced.

To properly gauge the extent to which a winter boat building business may be developed, it must not be forgotten that the time is past when only a man of means could think of buying and maintaining a pleasure boat. As a matter of fact hundreds have, through experience, found that the owning of a pleasure boat is in reality one of the least expensive forms of amusement. This is a fact and it is doing much to increase very generally the demand for the moderate size and price boats. And it is this demand that the carpenter, during his winter months, can turn to his own profit.

There are to-day several concerns in this country making a specialty of the manufacture of knock-down boat frames of every type. The plan very generally followed by these concerns is first to develop a perfect design of some particular boat type. When this has proven entirely successful, under a thorough testing, both plans and frames are prepared from this model. It is possible for the carpenter to purchase either the patterns alone or the knock down frame in part or complete, of practically every known or common type of boat.

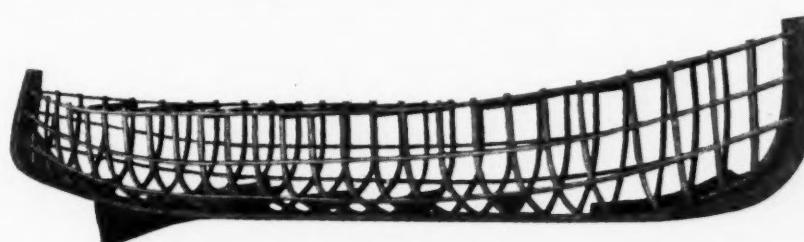
The carpenter can secure from the various boat building concerns specializing in this work their catalogs which detail and illustrate their various models and types of boats for which they furnish either just the patterns or the knock-down frames.

As a general thing it will probably be found more satisfactory to procure the knock-down frame of the type of boat it is intended to build and after this is set up in either shop or yard the actual building of the boat can be started and finished without any difficulty. These frames are always completely assembled and marked before shipment by the manufacturers.

After the frame is uncrated it will require not more than four or five hours of one man's time to assemble and fit it properly. This is really simple work as each piece has

been carefully shaped, fitted and numbered to another piece, which is also numbered, and there is really no chance of making any serious miscue in the assembling.

In the average work it will doubtless be found that the launch or motor boat is at the present time really the most popular type that can be built. For the carpenter who is seriously considering undertaking the construction of boats during his winter season probably the most satisfactory method he can pursue at the start is (if such a thing be at all possible) to get



Knock-down Boat Frame Assembled Ready for Siding and Finishing in the Carpenter's Shop

a line on two or three individuals, or as many more as you can, who are planning to be boat owners the coming year. Talk the matter over with them thoroughly and find out just what their desires are and the probable expense they care to go to. Then secure from the concerns specializing in the furnishing of boat patterns and the knock-down frames, their catalogs and such other descriptive matter as will assist you, not only in the construction of the boats but in the securing and closing of the boat business.

The manufacturer in furnishing knock-down frames furnish with each frame purchased, patterns for the planking and all other parts that are required to completely finish the boat. Of course, after the frame has been set up, it is necessary for you to secure and cut the planking to shape, then finish it to exact thickness; cut and finish the coaming and bend it where design calls for bending; also to make and place the engine bed, decking and other necessary parts. Once the work has been started it will be found not at all difficult, and through the instruction sheets and patterns furnished by the companies with each frame there is no reason for any carpenter to fear he cannot successfully carry through the work.

It may seem to the average carpenter and builder that the particular field he is capable of entering in boat building would not warrant, in a business way, the time and effort he must at first put forth. But, if the carpenter so situated locally that there is, in his nearby territory, both a demand and use for boats, will simply compare from the catalogs of boat builders and at local hardware or sporting-goods stores the prices generally charged for small launches and motor boats, also row boats and canoes, and from the catalogs of the manufacturers of boat patterns and knock down frames the prices these manufacturers ask for either their patterns or frames, then figure all the extra material needed, the time for constructing and launching, and the final completing work, it will be found that there can be a good profit in the work.

All material can be bought from the framing manufacturers if desired, but very probably it will be found much more practical, convenient and economical to furnish all constructing needs other than the actual framing. From the manufacturer's catalogs the particular hardware requirements of each boat can be had.

In the construction of launches or motor boats the question of providing them with a suitable motor must be given considerable thought. A not too powerful or complicated engine should be secured. At the present time for the ordinary boat use the two cycle one and two cylinder type of motor is generally favored for marine use. For the speedy craft, however, the three and four cylinder, two cycle engine is used.



"That's a smart thing I've done," said the doctor to his assistant.

"What's that, doctor?"

"I have put my signature in the column 'Cause of Death' in this death certificate."

COURT DECISIONS AFFECTING BUILDERS

Written Order for Alterations

Where a building contract provides that no alterations shall be made upon the work except upon the written order of the architect, the architect's verbal consent to an alteration—in this instance the substitution of "quarry" tile for "hydraulic" tile—is unauthorized.

Traitel Marble Co. v. Brown Bros., 135 N. Y., Supp. 12.

Apparent Danger—Assumption of Risk

An experienced carpenter was directed to assist in placing joists upon the walls of a building twenty-five feet high. The support of these in the middle consisted of a stringer composed of pine lumber two by six, sustained by posts made of two pieces of lumber two by eight, spliced together and braced, to which the stringer was nailed. Joists had been placed on the walls and stringer over one-third of the building. The carpenter went out on the stringer with another workman beyond the joists, drew up eight or ten pieces of lumber to make four or five joists, and he and his fellow workman were nailing these together on the stringer when an upright below gave way and he fell. He brought suit against his employer. There was no latent defect in the structure. The plaintiff knew the materials of which it was composed, the size of the posts and of the stringer, the way in which they were made, and that the posts either had no braces or but one each. Having had previous experience in this kind of work, the alleged defect in the structure was unavoidably obvious to him, and the risk and danger of placing two men driving nails and the material for four or five joists on this stringer in front of the deck was necessarily apparent. It was held that he assumed the risk, and judgment for the plaintiff was reversed, and a new trial ordered.

Chicago B. & Q. R. Co. vs. Shalstrom, C. C. A., 195 Fed. 725.



How to Make the Serving Table

(Continued from page 53)

Rails, 2 pieces, $\frac{3}{4}$ by 7 by $15\frac{1}{2}$ inches, S-2-S.
 2 pieces, $\frac{3}{4}$ by 5 by $15\frac{1}{2}$, S-2-S.
 1 piece, $\frac{3}{4}$ by 6 by $37\frac{1}{2}$ inches, S-2-S.
 Slats, 6 pieces, $\frac{3}{8}$ by $2\frac{1}{4}$ by 18 inches, S-2-S.
 Drawer supports, 2 pieces, $\frac{3}{4}$ by $2\frac{1}{2}$ by 37 inches, S-4-S.
 4 pieces, $\frac{3}{4}$ by 14 inches, S-4-S.
 Partition, 1 piece, $\frac{3}{4}$ by 2 by 6 inches, S-4-S.
 Drawer fronts, 2 pieces, $\frac{3}{4}$ by $5\frac{1}{4}$ by 18 inches, S-2-S.
 Sides, 4 pieces, $\frac{1}{2}$ by $5\frac{1}{4}$ by 15 inches, S-2-S.
 Backs, 2 pieces, $\frac{3}{8}$ by 5 by 18 inches, S-2-S.
 Bottoms, 2 pieces, $\frac{3}{8}$ by 14 by 18 inches, S-2-S.

Square up the ends of the posts and chamfer the lower ends slightly. Cut the rails to length and lay off the tenons thereon and cut them. Lay off and work the mortises in the posts and in the end rails. Plan to house the entire ends of the slats or, at most, shoulder on two sides only.

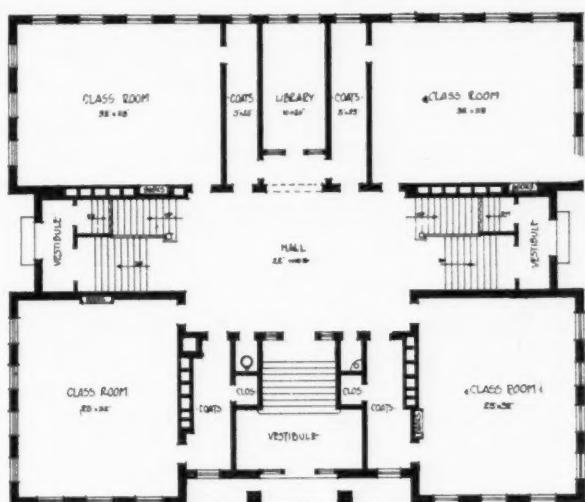
Next square up the top and prepare the frame work which is to support the drawers. Thoroughly scrape and sandpaper these parts and put the main frame together using hot glue and a sufficient number of clamps. Put the ends of the table together first and allow the glue to set upon these over night.

PUBLIC BUILDINGS

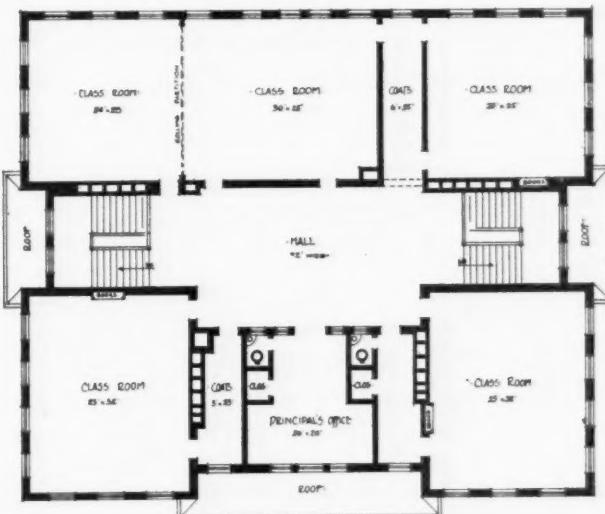
Another Cicero School

This is one of the fine new modern school buildings to

which the residents of Cicero (one of Chicago's western suburbs) point with much pride.



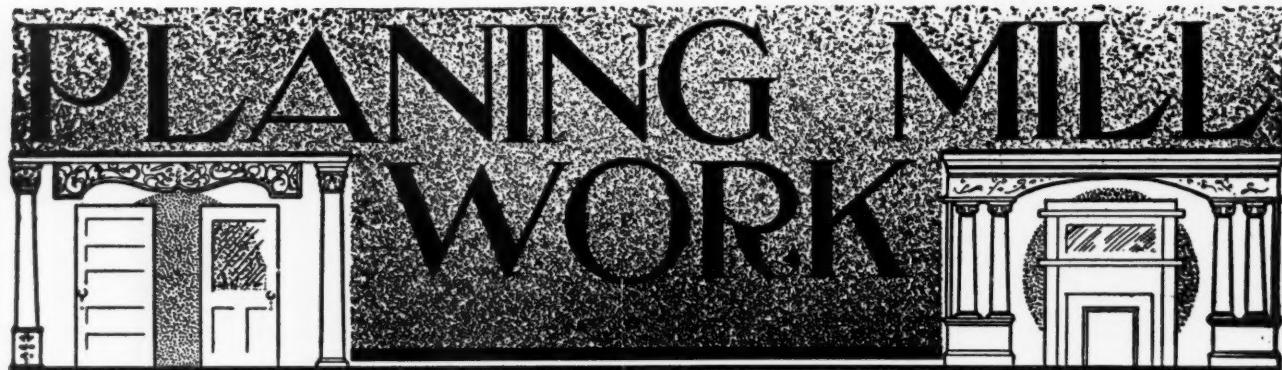
Main Floor Plan



Second Floor Plan



Theodore Roosevelt School at Cicero, Ill., G. W. Ashby, Architect

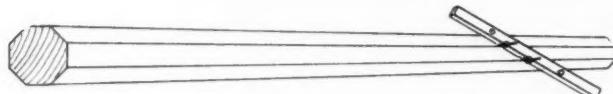


More Shop Kinks

HELPFUL IDEAS AND SUGGESTIONS FOR CARPENTERS, CABINET MAKERS AND MACHINE WOODWORKERS

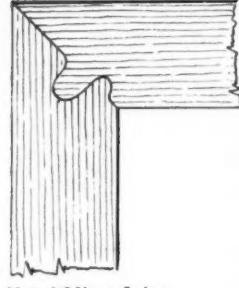
By Wm. C. Jasbury

AN OCTAGON TRICK. Here is a trick I saw a carpenter do some ten years ago and have never seen it done before or since and am sure it has never been published. Take for instance a square pole tapering to a small end to be changed to an octagon. On the larger end he laid out an octagon to find how far the corner would be from the side; and, as the pole was tapering, this distance would decrease. Now, to lay out both ends and use a chalk line, would not do, as the pole was not very straight. He took a strip about $\frac{3}{4}$ of an inch



To Mark a Tapering Stick for Cutting to an Octagon

square and placed it diagonally across the pole and drove a nail down through it at each side of the pole, then he cut a notch at the octagonal line on each side, slid the stick up to the pole, keeping the nails bearing against the sides of the pole while he held a pencil in the slot which gave the required gauge line.



Novel Miter Joint

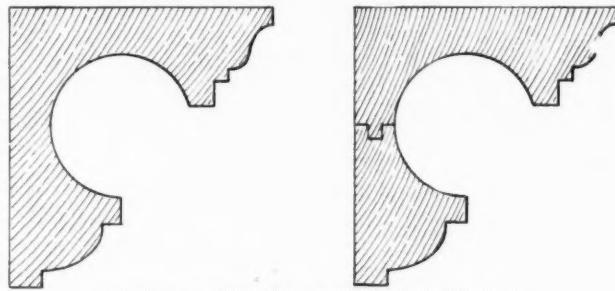
SOME MITER JOINTS. Here is one I had sprung on me by a young architect for a newel corner. It makes a good joint but the estimator should take on a few extra cents for them. This gives a large gluing surface; but it takes time to fit up. I made them on the variety moulder; but if I had many of them to do, it

would be done on the moulder.

HE LENGTHENED HIS LEGS. An extra tall bench hand working stair ramps in his vise complained to a short Italian working at the next bench, of his (the tall man's) back being nearly broken from bending over. The Dago said: "Maka de legs longer." (Tall man) "Make legs longer! what are you talking about man? for this job they are too d— long now." "No, no," said the Dago.

"De ah bencha legs." So Mr. Tall man nailed a couple of slabs on the bench legs (on one end) raising it up about 6 inches for the time being; and they were fast friends ever after.

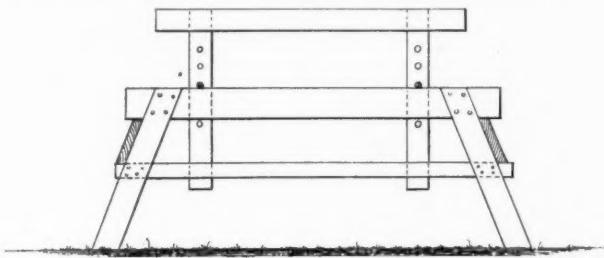
TO CURE DRAFTSMAN'S NIGHTMARE. In the ordinary planing mill, where house work is made



Under Cut Moulding and How it is Worked

from architect's details, there are many very odd shapes of mouldings to contend with; each draftsman has some peculiar nightmare to put over on the poor mill man in order to bring out what might be termed his own originality—such as a cove moulding like the first illustration. Now then, this moulding cannot be run on the ordinary moulder on account of the under cut. So Mr. Moulder Man, makes it in two pieces and glues them together, as shown in the second illustration.

ADJUSTABLE HORSES. I saw once during my travels a pair of carpenter's saw horses that were

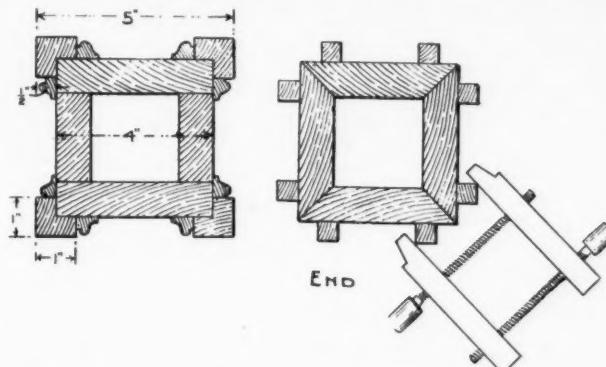


Adjustable Saw Horse

made so that the height could be adjusted to meet different conditions of work. The illustration will convey the idea of how they were constructed.

SOMETHING ABOUT NEWELS. A very practical way to make newels is to box up the post one inch smaller than required, rabbet out corners one-half inch and put on with glue, and there will be no nails in bottom where the post is likely to be notched out—as most carpenters do not carry a hack saw but do carry an extension brimstone vocabulary; anyway the panels can be formed by putting in pieces one-half inch thick where necessary. The illustration shows end section.

Another way to put a mitered corner newel together, is to glue temporary blocks on the face



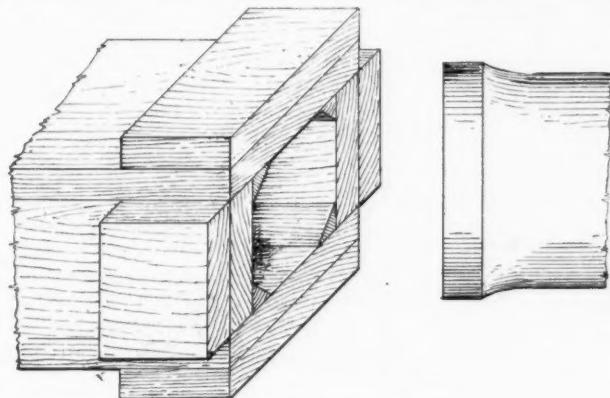
Cuss-word-proof Square Newel

Scheme for Gluing Mitered Corners

near the edge to get the hand screws to hold to while glue is drying. Of course this is not the quickest way but it is one of the best.

Another way to put a mitered newel together is to saw out two pieces and nail on top of saw horses with a slot cut into them large enough to take the newel and hold it while the hand screws are put on cross-wise. The newel can be taken from the slots as soon as the hand screws have been put on and another can be clamped up.

TO PIECE OUT A COLUMN IN THE ROUGH. Oftentimes mill turners have to stave up or rather glue up boxes for interior columns where there is to be a fillet on the bottom that extends so far that in order to turn it out on the column, it would make the shaft at the base too thin. I had an occasion of this kind recently in quartered red oak. I boxed the column up as shown in the sectional drawing. I ordered the four



Flaring End is Built out with Blocks

side pieces three inches longer than I needed. When the material came in the shop, I cut off three inches of each end and numbered them where I cut them off, so that the grain and color would match later, when I glued up the column boxes; after they had dried out, took off the clamps and glued on the three inch blocks (matching the numbers) to allow for the fillet.

HOW THE MILL MEN CHEW UP LUMBER.

I personally know it to be true, because I have tasted it. Mr. Draftsman will draw his details for mouldings, balusters, rails, etc., for full $1\frac{1}{4}$, $1\frac{1}{2}$, $2\frac{1}{2}$, 3 inches, etc., while Mr. Mill Man cannot furnish these sizes without using stock $\frac{1}{4}$ inch thicker for all of the above sizes mentioned, at a loss of course, unless the estimator has figured to take care of this waste, because 1 inch lumber will only hold out $\frac{7}{8}$ of an inch and some of the stock we are getting now days is only about $\frac{7}{8}$ in the rough. What is sold for $1\frac{1}{4}$, or as it is called $5/4$, will only hold out $1\frac{1}{8}$, $1\frac{1}{2}$ only $1\frac{1}{8}$, etc. Now, if Mr. Draftsman would only bear the dressed sizes in mind and make his details accordingly, it would be a benefit to both the mill men and the owner. Of course I know sometimes an architect wishes to develop a certain set of shapes and designs, and goes regardless of mill sizes; but that is as Kipling says—Another story.

TO CORRESPOND WITH MACHINE WORK.

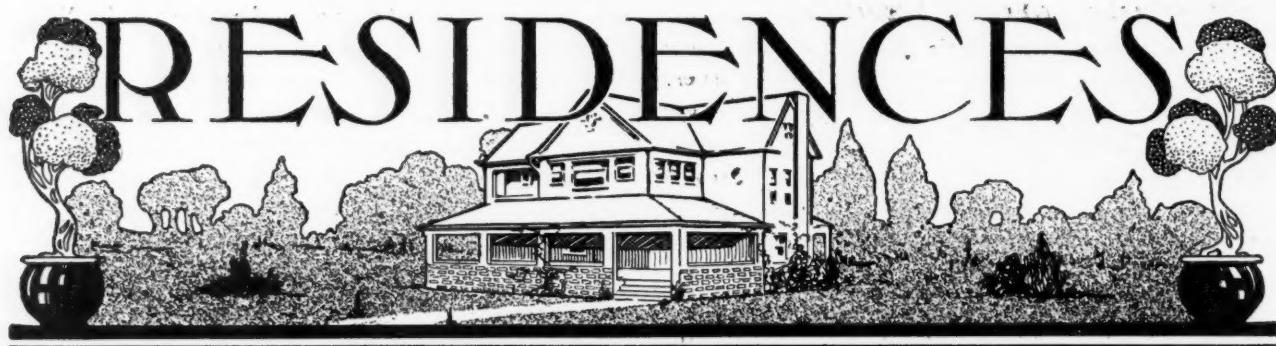
Recently I had an order for twelve seat arms for school desks to correspond with the arms furnished with the desks. They had dovetail slots cut in the bottom, which were of factory make and evidently made on a machine for that purpose; the blocks were of birch $1\frac{1}{8}$ by $2\frac{1}{2}$ by 10 inches long. First, bored a $\frac{3}{4}$ inch hole at x with a Forstner



A Tricky Slot to Work

bit (no worm) so that it would not mar the face; then took an old piano lag-screw with an oval head and ground the head into angles so as to cut and put this into a chuck on a turning lathe, built up a small platform to slide pieces on, proper height and did the job very nicely.

TIME SAVED IS DOLLARS MADE. In putting hand rail together, I have seen men wait for a half an hour for some one to loan them a Stilson wrench to screw in a single nut bolt. I have seen other men screw the nut down to the shoulder, then use an ordinary monkey wrench, or a pair of pincers on the nut to screw the lag screw end in the rail, then back off the nut and then proceed. Catch it? It only goes to show how much ingenuity some men have against that of others in the management of time and labor.



Plans for Pleasing Square Type Design

ARCHITECTS COMPLETE WORKING DRAWINGS, PLANS ELEVATIONS AND DETAILS OF TWO STORY,
EIGHT-ROOM HOUSE

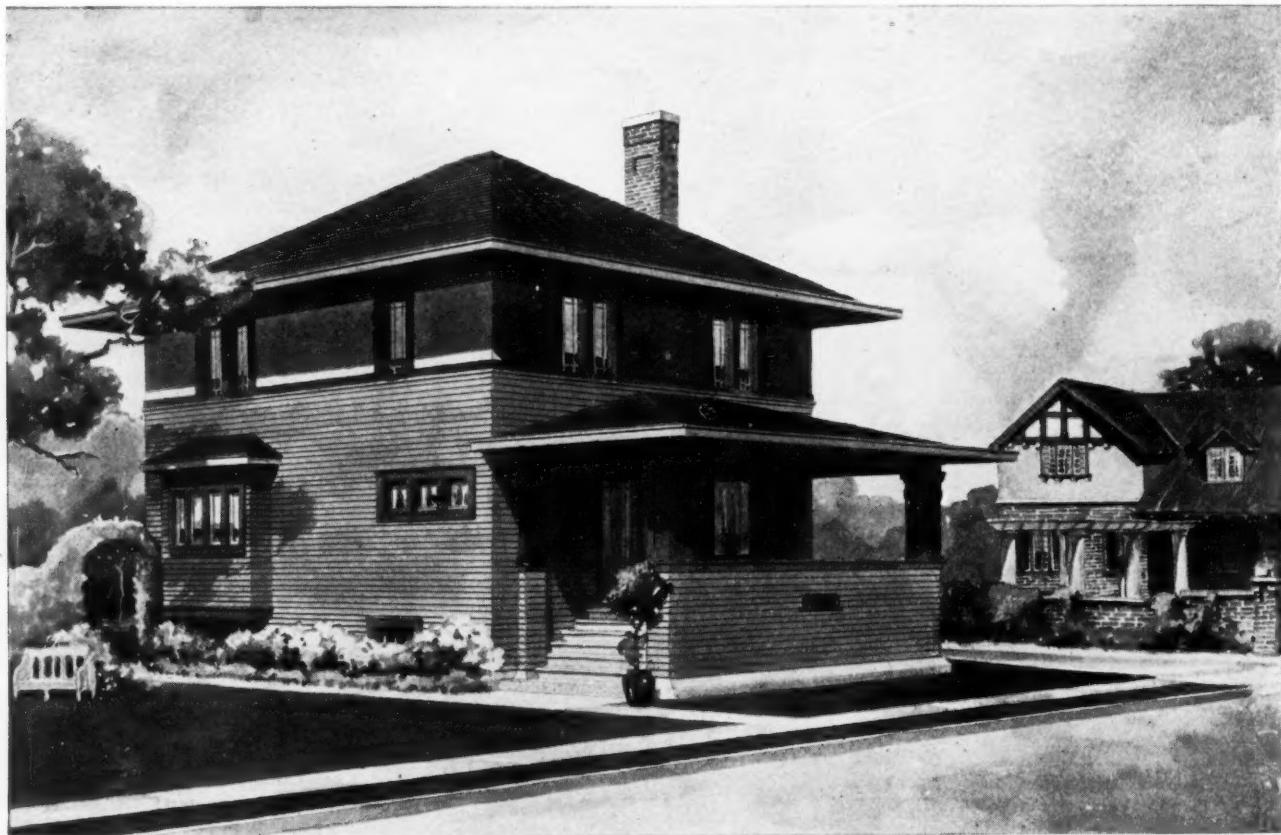
OF this square type, two story, eight-room combination sided and plastered home, there are many interesting features which make for comfort, coziness and appearance. These can well be adopted as entirely practical and suitable in the planning and building of other residences.

This month's house was but recently built for Mr. G. H. Neher, Jr., at Riverside, Ill. A very comfortable porch extends across the front. Entrance from porch is direct into reception hall. From this hall lead the stairs to second floor. A built-in seat has been placed upon the platform landing leading to these stairs. To the right of reception hall is the large living room, having both built-in fire-place and book cases.

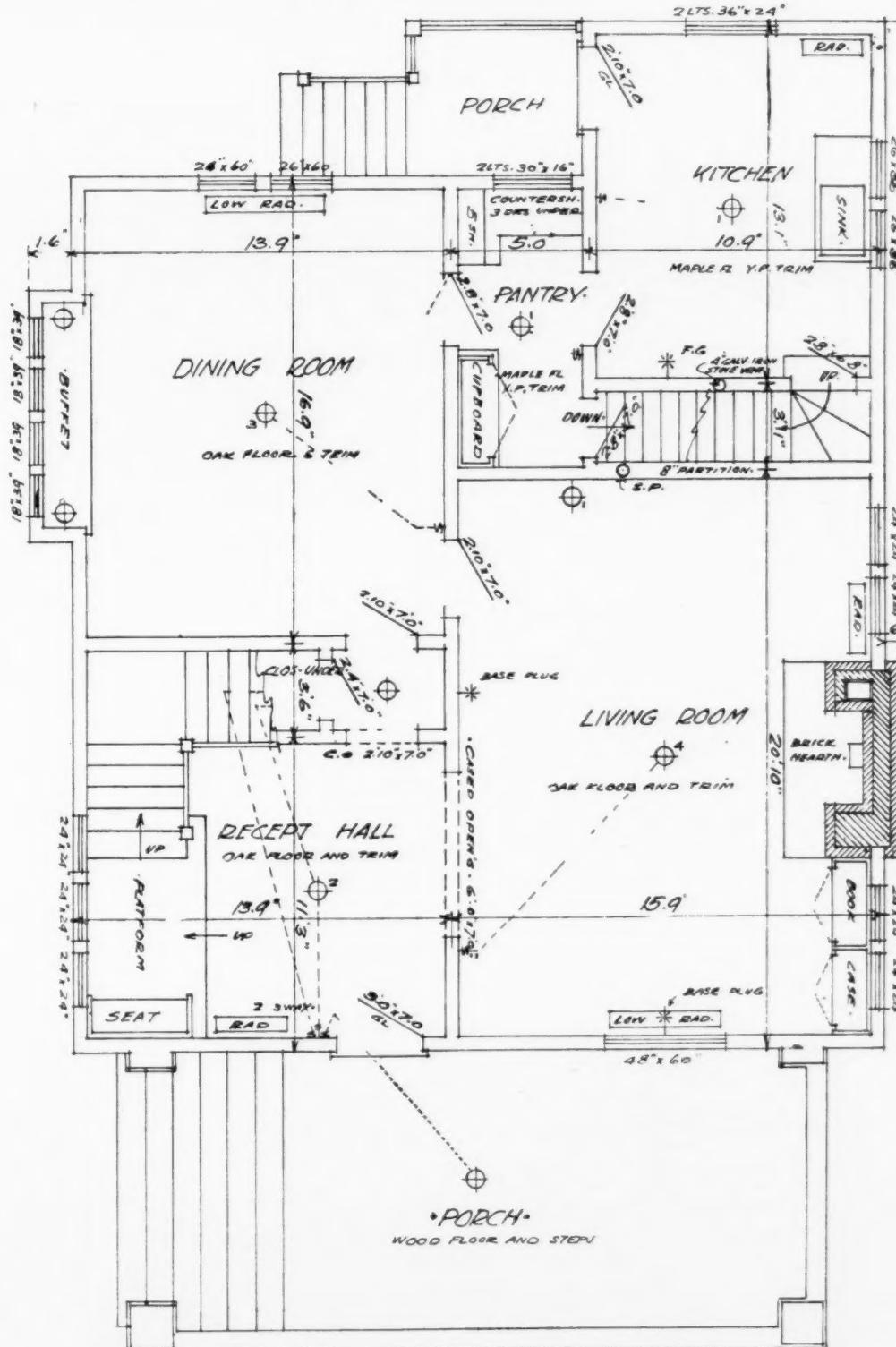
A feature of the dining room is the built-in buffet with four windows opening above this. A good size pantry is between this room and the kitchen. Stairs leading to basement run from small closet to right of pantry. The kitchen is large and provided with every modern convenience.

Upstairs there are four good size bedrooms, a bathroom and hall. Two of the bedrooms are in the front and two in the rear. All have ample closet space and are well lighted.

On the first floor in the front part of the house the floors and trim are oak. In the rear maple flooring and trim were used. Upstairs the flooring is maple and the trim birch.



Eight-Room Sided and Stucco Residence of Popular Style Designed for Mr. G. H. Neher, Jr., Riverside, Ill.
COMPLETE WORKING DRAWINGS FOR THIS HOUSE ARE PRESENTED ON THE 7 PAGES FOLLOWING



FIRST FLOOR PLAN

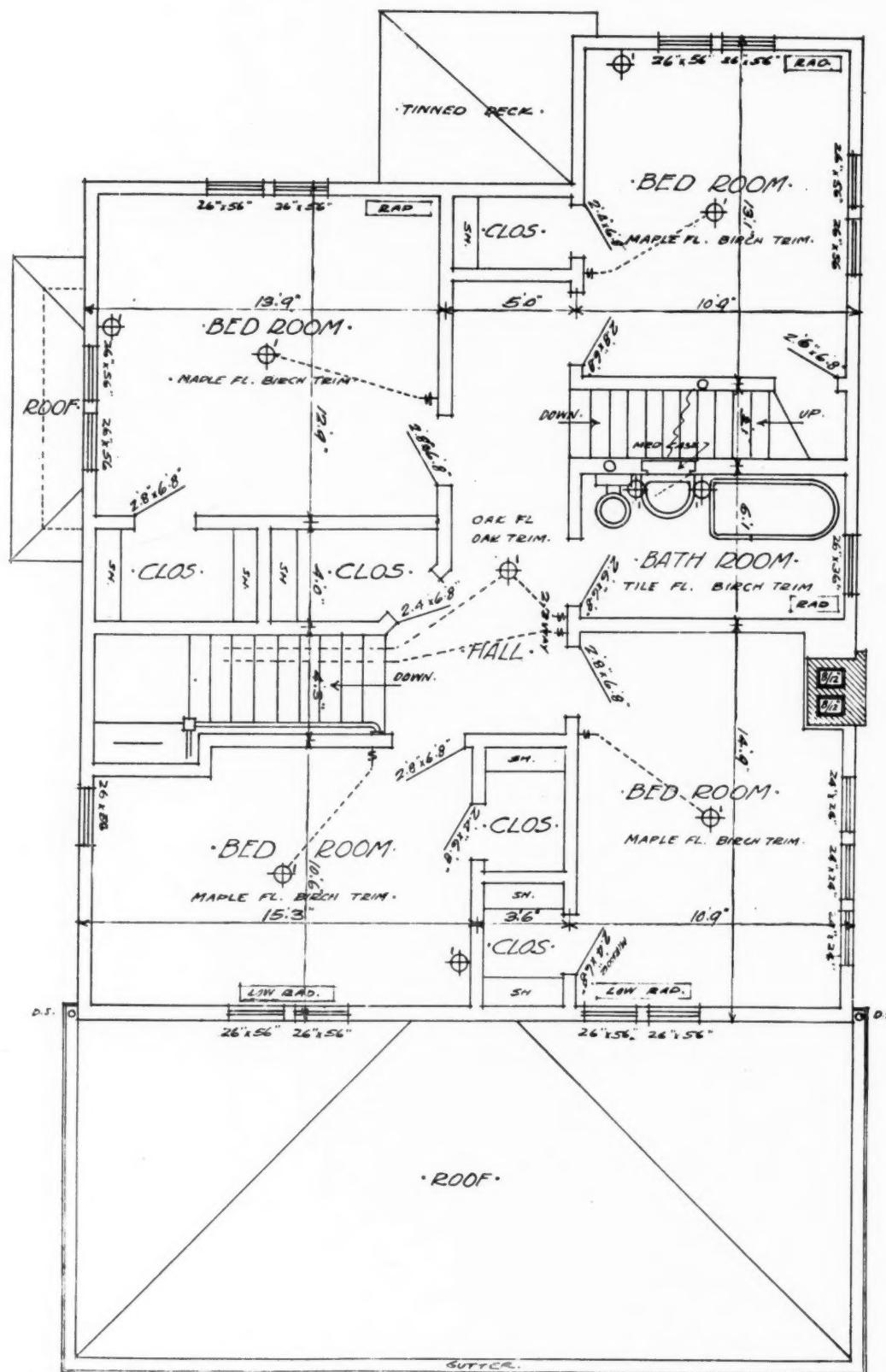
(House Shown on Opposite Page)

The exterior finish is stained clapboarding from foundation to second floor. From there to roof a plaster finish was used. The roof is stained shingles, as is also the roof covering the porch.

In the basement every provision has been made for laundry and heating equipments, also storage space

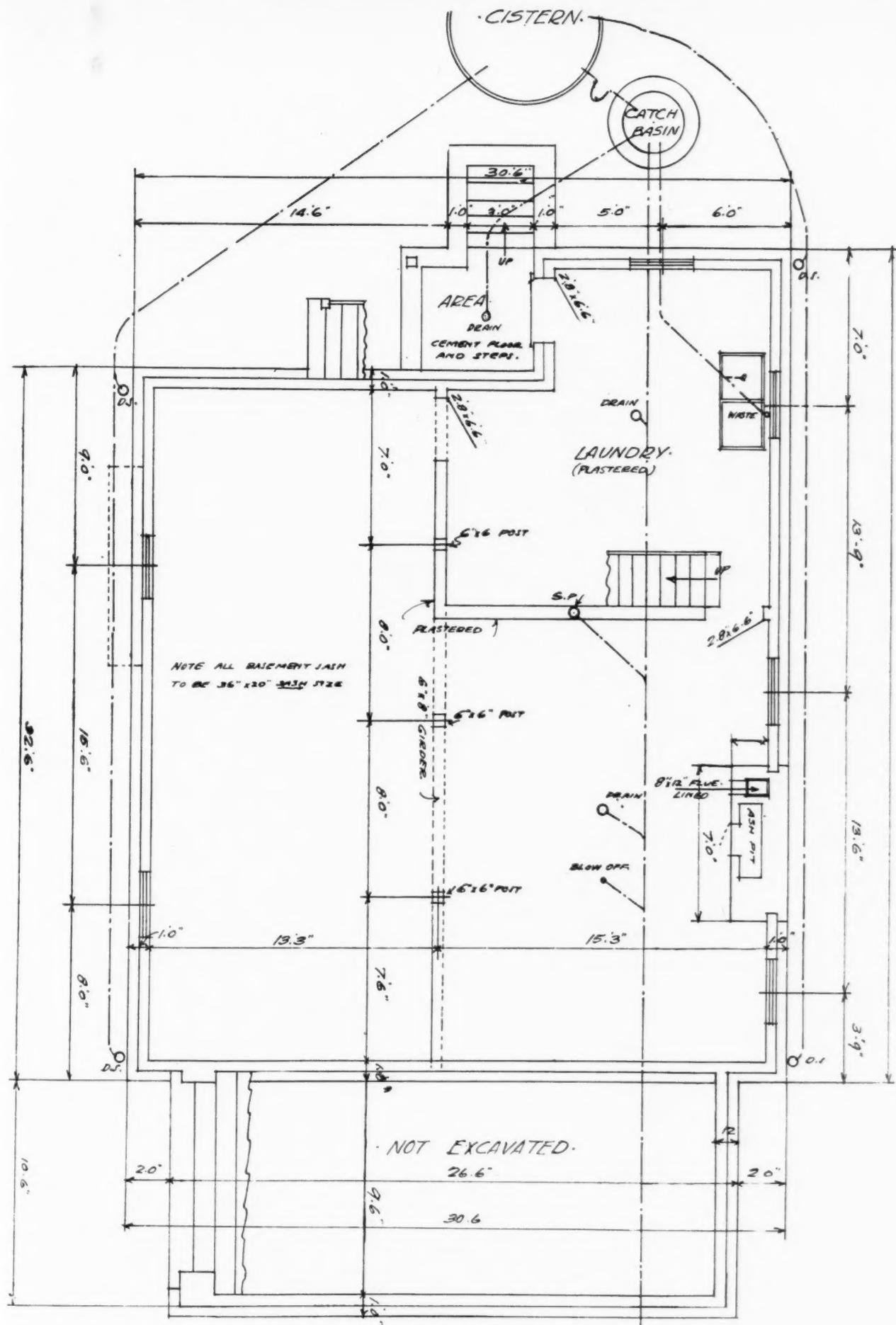
provided. The house is, of course, piped for gas and wired for electric light.

Particular note should be taken this month that on the plates giving details of interior trim the exact scale is given. On the floor plans all important dimensions are plainly marked.



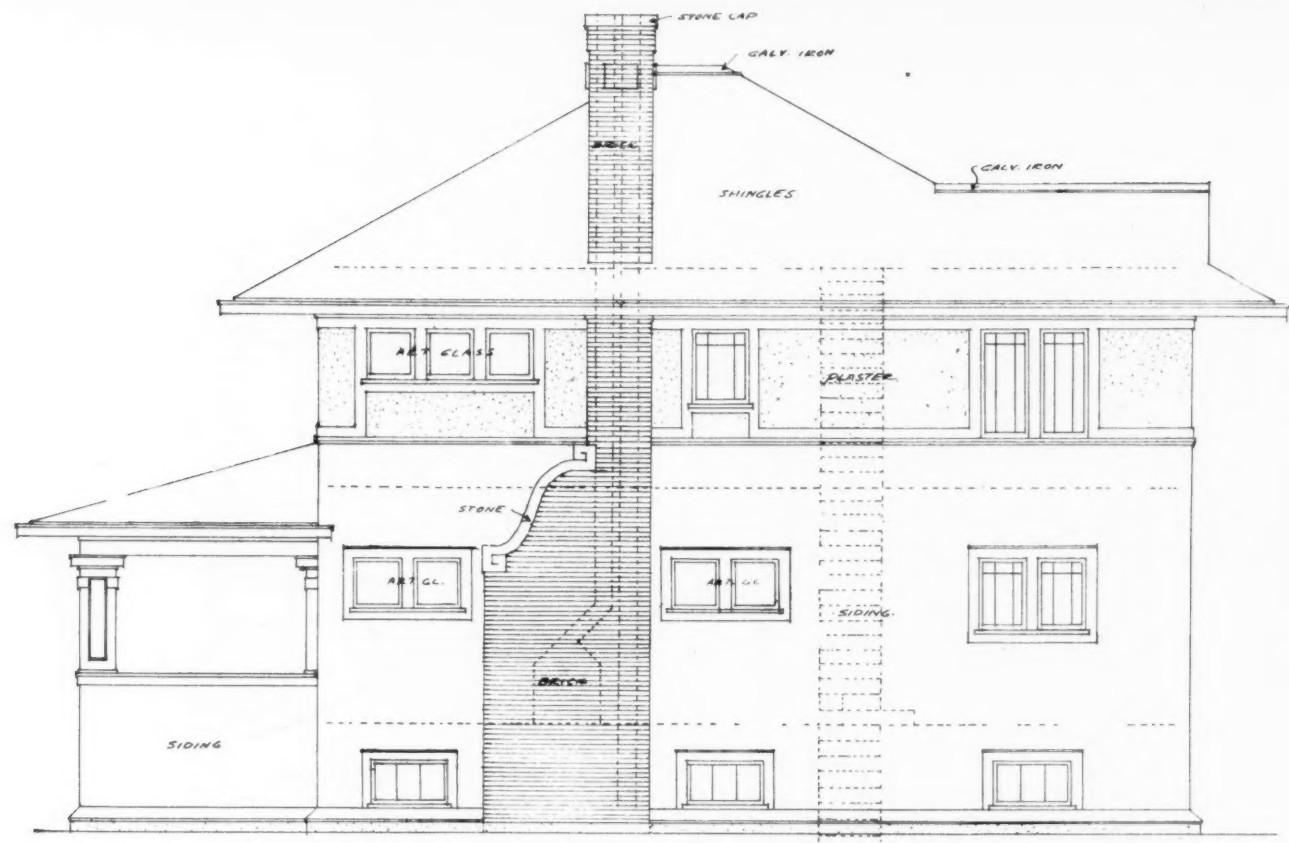
SECOND FLOOR PLAN

(House Shown on Page 60)



FOUNDATION AND BASEMENT PLAN

(House Shown on Page 60)



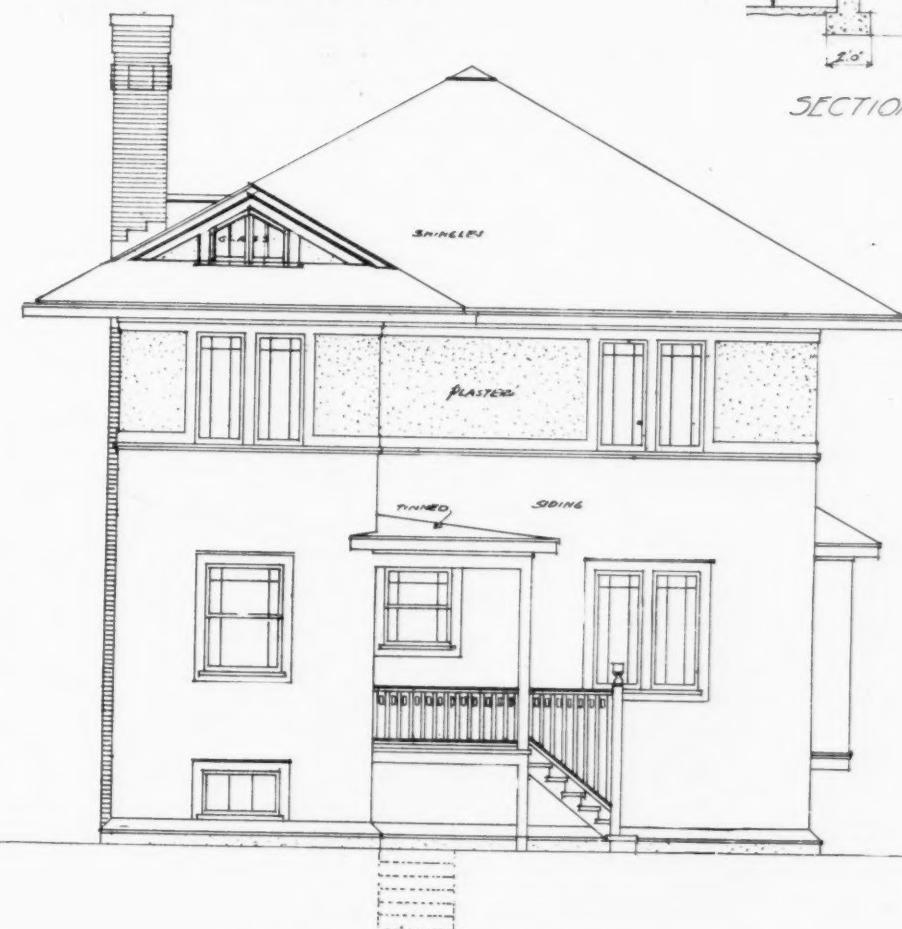
RIGHT SIDE ELEVATION



LEFT SIDE ELEVATION
(House Shown on Page 60)

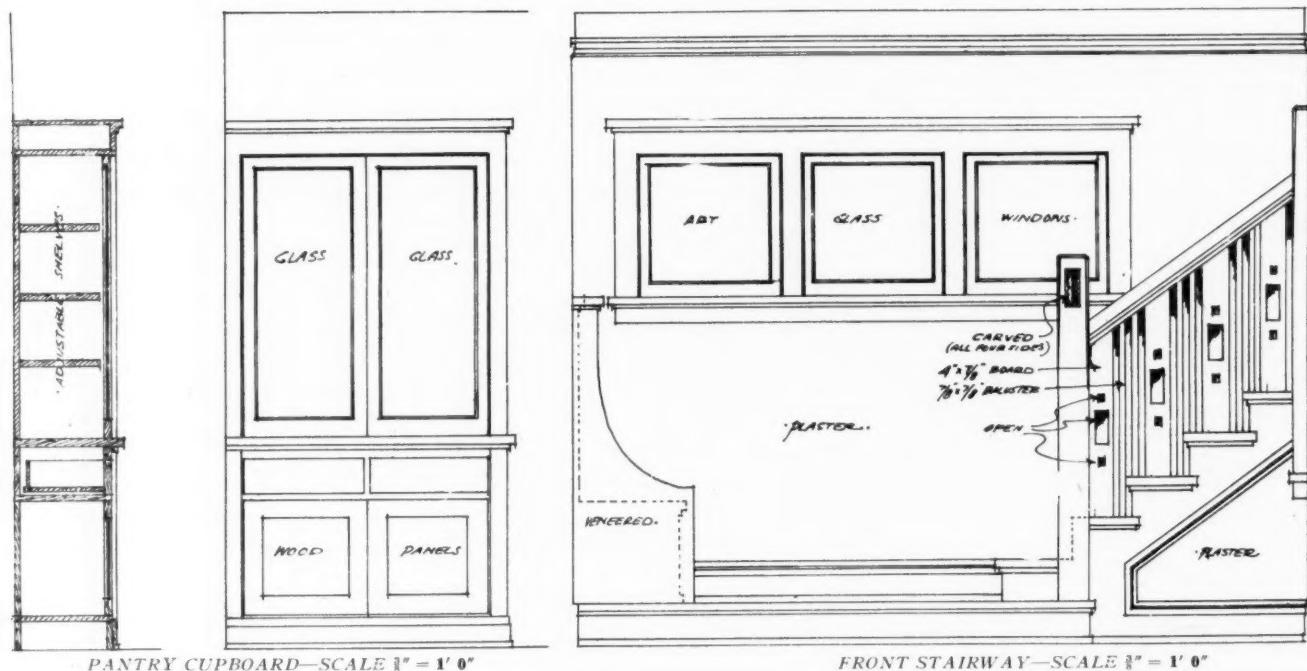
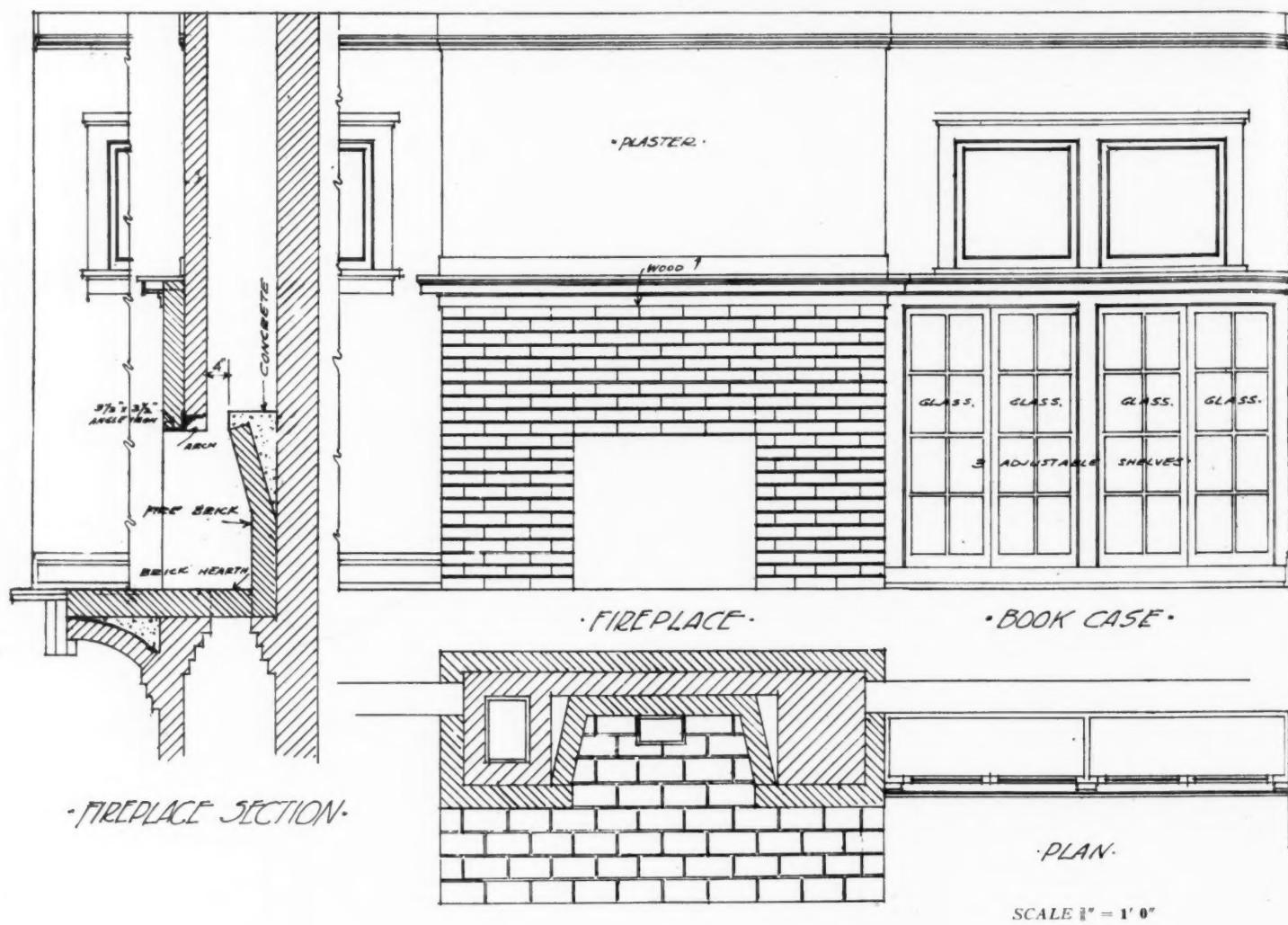


FRONT ELEVATION

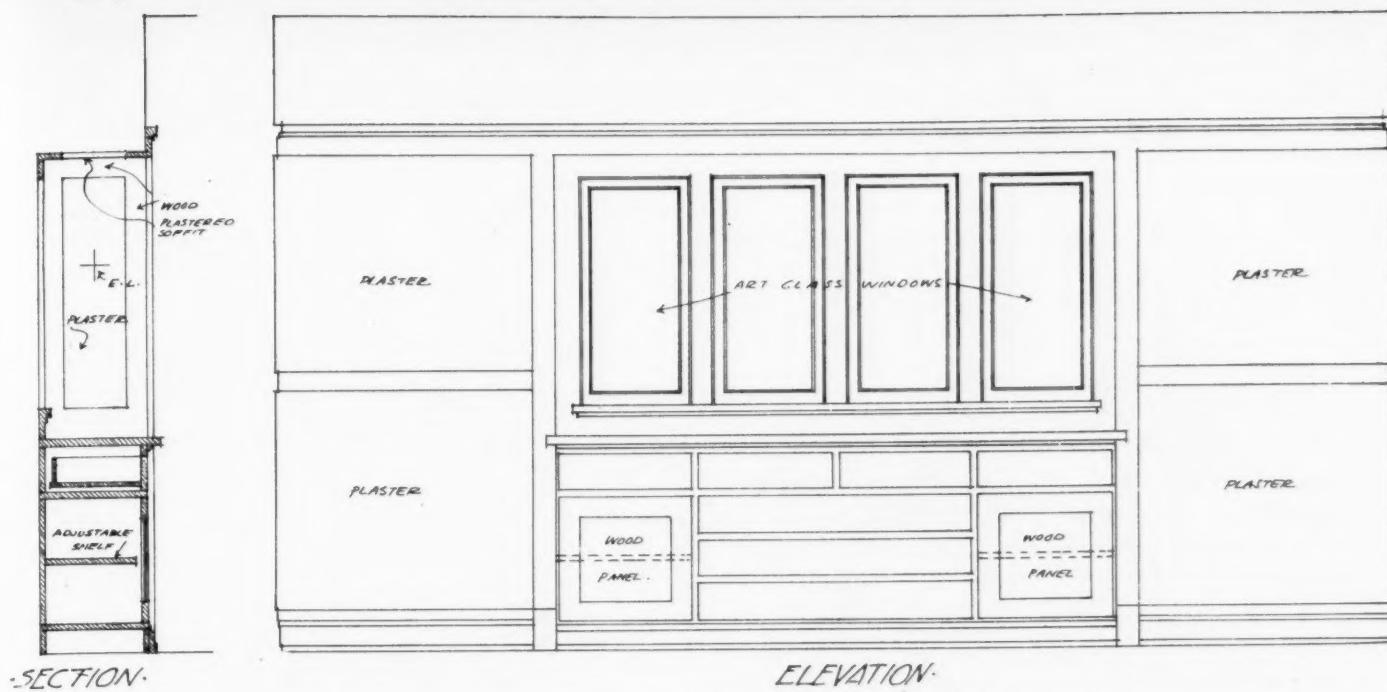
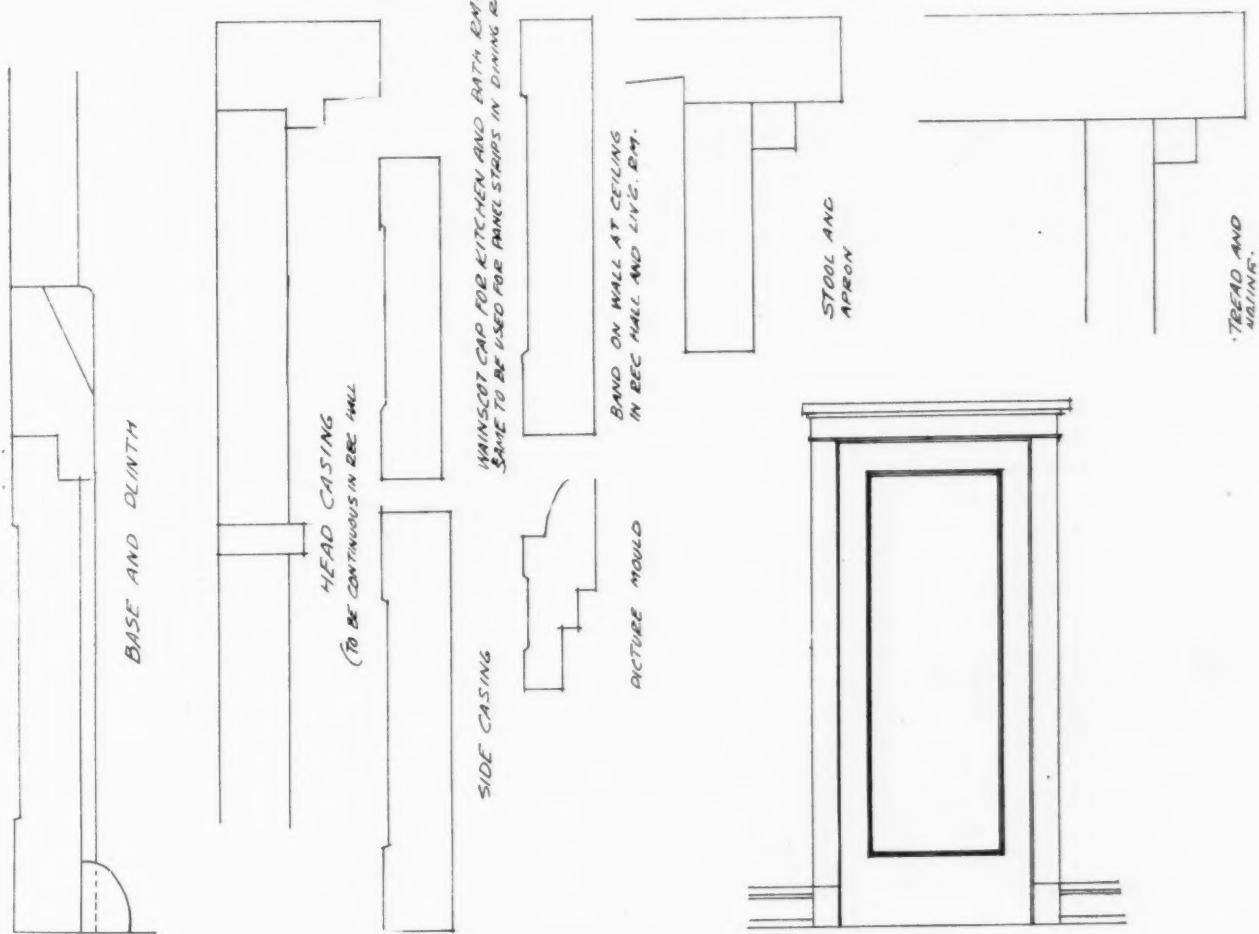


REAR ELEVATION

(House Shown on Page 60)



SCALE DETAILS OF INTERIOR FINISH
(House Shown on Page 60)

DETAILS OF BUFFET IN DINING ROOM—SCALE $\frac{1}{8}$ " = 1' 0"

DETAILS OF INSIDE TRIM—ONE-HALF FULL SIZE

TYPICAL DOOR AND TRIM.

SCALE $\frac{1}{8}$ " = 1' 0"

SCALE DETAILS OF INTERIOR FINISH

(House Shown on Page 60)



Special Trowel for Cement Plaster Coating

The messy, swear-provoking part of cement stucco work—the part that has kept many builders away from this popular method of house siding—has been the putting on of the final rough casting or splattered-dash finish.

We have seen the men (known as experts) throwing on the mortar in little dabs with a quick jerk of a small paddle or flirting the mortar on with a round brush; but more of



Trowel That has Splatter-dashed 2,000 square Yards

the mortar usually finally lodged on the ground under the scaffold than found secure lodgment on the wall.

A practical builder has finally made, patented and used a special stucco finishing trowel as illustrated. He writes that on 2000 yards of plastering his trowel has saved him several hundred dollars over doing the work by either of the above methods or by any other known to him. On this one

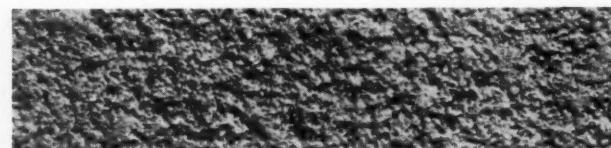


Photo of Splatter-dash Cement Plaster Finish

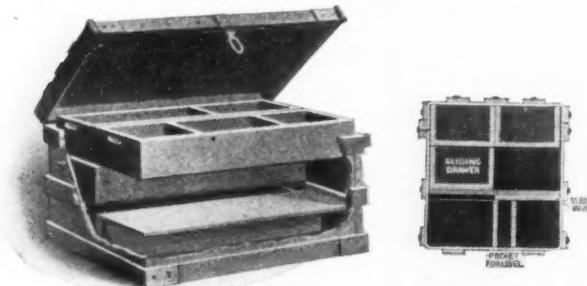
coat of splatter-dash, the workman averaged about 28 square yards an hour, although he had no previous experience with the tool. The work was even and regular—none more so.

Contractors and builders will doubtless take a lively interest in this tool. We understand the inventor is looking for some firm to handle it on royalty.



Steel Tool Chests

Carpenters generally are proud of their tool chests. A chest that is arranged inside in such a way that the owner can get to any particular tool without handling over all the



Strong yet Light—Carpenters' Steel Chest

rest; keeping them all in some sort of order, is what they like. Coupled with this, if the chest can be strong and durable, sneak thief proof, it is just right.

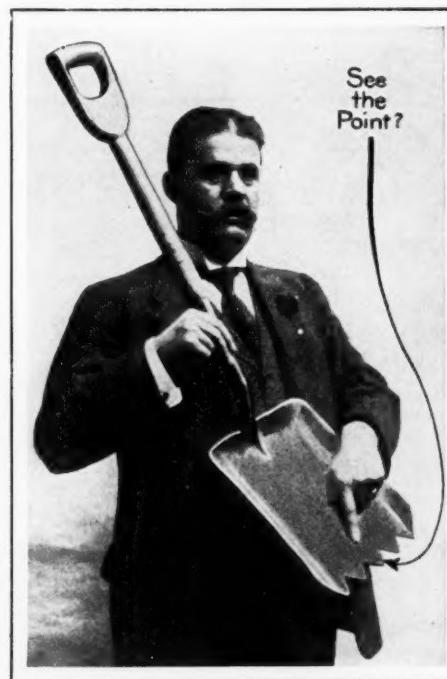
One of the tool chest makers has now built a very ingenious sheet steel chest, very strong, nicely arranged, fairly light weight. He has a specially designed carpenters' chest, also specially arranged chests for many other classes of building trades mechanics. In many instances these steel chests will be just what is wanted.



Try this on Your Razor Strop

The manufacturer of spades and shovels was looking at a mowing machine blade. "It goes into its work eagerly, doesn't it? Give it just a little place to start and it gets through all right. I'll make my shovels that way, too."

This new shovel reminds one of a safety razor—because it is so different. You never would cut yourself or anything



The Man who Produced Something New in Shovels

else with an ordinary shovel or spade; but this new shovel blade is like the old style razor—it cuts.

Ingenius, isn't it? Queer, no one thought of making a shovel this way before. They have named it very appropriately, "Yankeetoothed."

In shovel excavating one-half of the labor is in getting the shovel down into the earth. Sometimes it is two-thirds, as in digging in blue clay, for instance. If this sharp toothed shovel can cut down this heavy labor, it will be welcomed as the New Year's best offering, by builders and contractors.

We judge they are worth looking into and trying.



New Uses for Terra Cotta

The workers in terra cotta don't stop at anything these days. In some of the large cities the skyscraper builders seem to be able to think of nothing but glazed terra cotta. The "bathroom style" of architecture is now all the rage for city office buildings, and if they have their faces thoroughly scrubbed twice a year, they look very clean and nice, indeed.

As for terra cotta ornament, everything that the expert stone cutters of old times have laboriously and with great pains chiseled out, are now being duplicated in burned clay.

Grotesques carved out of stone are familiar parts of Gothic style buildings. Grotesques of terra cotta are now with us.



Terra Cotta Grotesques for Cornice Ornaments

These two illustrated appeared in the main cornice of the Central Commercial and Manual Training School of Newark, N. J. The company which produced these deserves considerable credit for the pungent freshness with which they have executed this work.

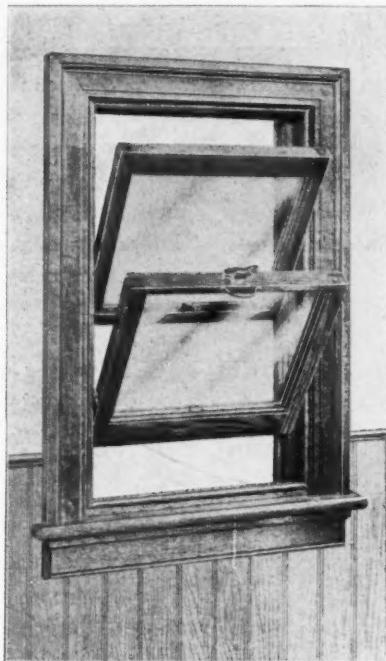
Architectural ornament in great variety is now within the reach of all.



A New Window

It must be that there is something radically wrong with our ordinary double-hung windows—there are so many "improved" windows offered to take its place!

The window illustrated is one of the latest and appears to be one of the best. This is not a new style sash nor any radical departure from the common, or "old style" double-hung window. This window has a patented steel stile, which



An Ingenious Steel Stile Makes These
D. H. Windows Adjustable in a Dozen Ways

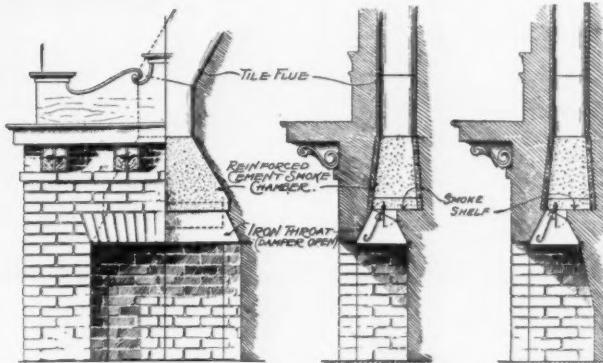
does away with the limitations of an ordinary window and permits a great variety of adjustments.

For ventilation, easy cleaning, ease in operating and adjusting, keeping out storms, and warding off prowlers, this window scores high. Its adaptability is so great that a working model has to be examined to appreciate it at all. For office buildings and many other structures this new window is sure to be in good demand.

Fireplaces that Won't Smoke

Builders are always more or less troubled with smoking fireplaces. The construction illustrated has been found by a large number of leading architects to relieve them of all worry on this score.

It is difficult to make a proper and smooth fireplace



Front Section

Throat and Damper in Plumb and Sloping Back Fireplaces

throat formation in masonry. This is a cast-iron throat built into the chimney. It completely overcomes this difficulty. Its cost is so small an item that the saving of time of the bricklayers will in most cases fully offset it. It forms a strong lintel. The easily adjustable damper which goes with this is a feature that every fireplace should contain.



An Automatic Cellar Drainer

For the draining of pits, sumps, cellars, tanks, settling basins, or wherever it is desired to keep water or other liquids from going above a certain level, a very efficient automatic ejector is now offered.

The illustration will show what this is. This ejector is operated by water pressure. It is controlled by a new style flat top float which works a quick opening and closing valve. The whole arrangement is very compact and all the working parts, except the strainer and float are above water, thus preventing corrosion and clogging.

Contractors often have need of an automatic drainer of this sort. They will be glad to know of this improved pattern.

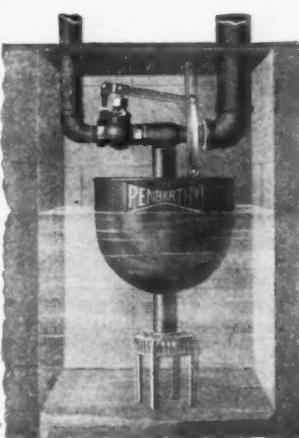


Wire Conduit Sizes Standardized

It is very evident that the tendency of the times on the part of architects, engineers, inspection departments and municipal authorities is toward the requiring of metallic conduit for the installation of wires in buildings.

Recognizing this tendency the National Electrical Contractors' Association, through its Executive Committee, have been working on the preparation of reliable data in regard to the proper size of conduit to be used in installing wires and cables.

Very nearly a year has been spent in the study and investigation of this subject, and this has resulted in the prepar-



All Working Parts are Above Water

ation of charts showing in full size the proper sized conduits to be used for installation of various combinations of wires and cables, and these charts were officially adopted at the 12th annual meeting of the National Electrical Contractors' Association.

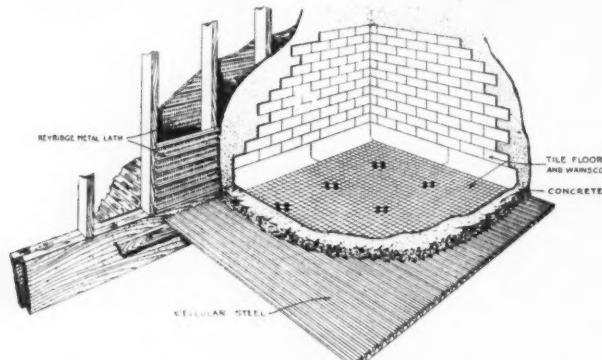
The actual saving in time from the use of these charts will make them very valuable. Orders for them or requests for further information should be sent to W. H. Morton, Secretary, 41 Martin Bldg., Utica, N. Y.



Cellular Steel for Concrete Floors

Builders do not like to lay down wet concrete over ordinary wood flooring or floor framing. Yet in the modern residence considerable concrete flooring is called for as for terrazzo or tiled bath rooms, vestibules, halls, kitchens, etc.

For use under concrete in such places a cellular steel pro-



Light Cellular Steel Slabs the Ideal Concrete Support

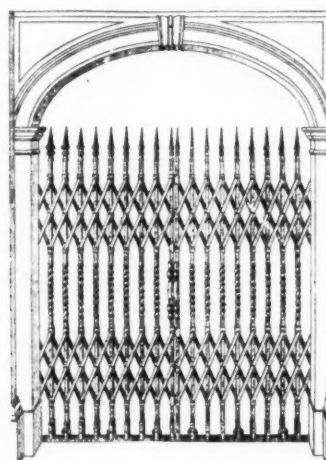
duct is now offered. This is extremely light in weight; but, due to the form in which it is made, it is exceedingly stiff and strong, requiring no centering. It will not shrink or crack and is obviously fireproof. As it can be installed with less labor than ordinary floor construction it speeds up the work.

In comparison with other fireproof floors this weighs 50 pounds less per square foot. As for strength, tests made by the Building Department of New York City place its carrying capacity at 600 pounds working load per square foot on 6 foot spans.



Entrances Protected Without Hurting the Eyes

The common run of iron gates used at building entrances are far from things of beauty. They don't add in the least to the architectural appearance of the place.



Folding Entrance Guard Gates That are not an Eye Sore

We always understood that if a folding iron guard gate was strong and would do the business intended, it had to look like the dickens.

We have been wrong—this isn't so.

Note the gate illustrated—it not only is of appearance architecturally good, but also has lifting bottom guides to hold these gates firmly in place and even keep them from rattling.

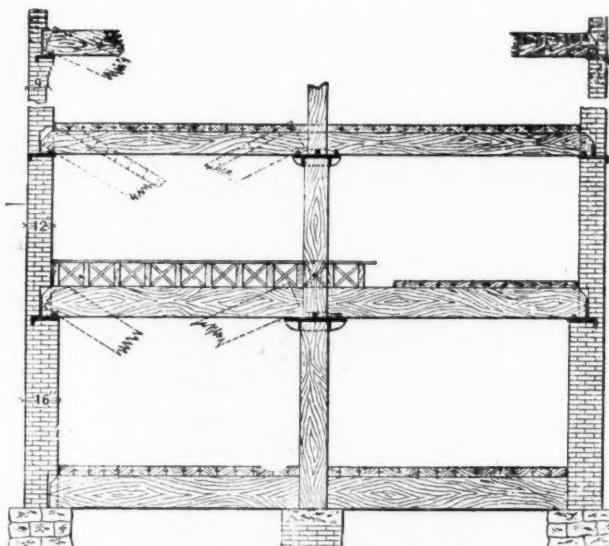
Folding iron gates and guards for windows, driveway entrances, elevators and many other uses can now be had also, designed along similar satisfactory lines.



Self Releasing Girders

For the majority of factories and warehouses, the standard mill construction, consisting of heavy timber posts and floor girders with side walls of brick, appears to continue as first choice.

A recent development in materials, making heavy timber construction still more safe from a fire insurance standpoint, is a system of cast iron post caps, sill plates and anchors that make the girders self-releasing. In case of fire when the beams burn through, they release themselves from the fastenings at either end, and fall in, leaving the walls standing.



Falling Girders Release Themselves Without Pulling Down Walls Also

With this even where there is a bad fire the building is seldom a total loss.

The illustration shows one application of this idea. Since it costs no more to use these self releasing girder castings, the general adoption of the idea is probable as it becomes better known.



Competition for Haiti National Palace

A competition for the building of the National Palace at Port-au-Prince, Haiti, with all its outbuildings, to replace the former palace which was burned to the ground on August 8, 1912, is open to Haitian and foreign architects and engineers. The following prizes will be awarded for the three best plans: First prize, \$500; second prize, \$250; third prize, \$200.

The Congress of Haiti has appropriated \$100,000 for the construction of this new palace, which is to be fireproof and thoroughly modern in every detail.

Architects and others desiring to compete are required to send their plans, within three months from November 4, 1912, to the Department of Public Works (Department des Travaux Publics), Port-au-Prince, Haiti.



Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

Personal Experiences of a Canadian Builder

By Frank G. Myers

Carpenter and Building Contractor, Fort Francis, Ontario

Editor AMERICAN CARPENTER AND BUILDER:

THE writer has been very much interested and instructed by the various articles from correspondents, from month to month, and wishes to add a few remarks to show that there are interested subscribers to your valuable paper on this side of the line, too.

When I started on my own account five years ago, I prided myself on being able to build a house with less lumber than most other carpenters. Now, I have gotten over that. It does not pay to skimp the size and quantity, if you don't want floors to spring and sag and roofs to spread etc.

Also I put in more nails than I used to. Nails are cheap; don't skimp the nails. Also I used to put on building paper to keep out the wind. Now I have changed my ideas and build my walls to keep in the heat and keep out the cold. I always line my houses with ship lap or D. & M. stuff, outside and inside,—paper and novelty siding outside, and paper and straps on the inside lining,—then lath and plaster. I strap at 16 centers with lath.

By lining inside with inch boards, you can always put studs at 24-inch centers and so save a little dimension, and put the price into the inside lining.

First floor joists are 24-inch centers; I strap them with 1 by 2 and 16-inch centers. Attic joists coming on top of plate can be put 16-inch centers. Then I floor attics all over, right out to the rafter plate, to keep heat of bedrooms from evaporating through plaster ceiling.

There is a large saw mill here manufacturing pine lumber. Their prices for base, casing and mouldings are so high that we can make them by hand just as cheap. We have to pay 75 cents a hundred for $\frac{1}{4}$ Rd. So we have been shipping from Davenport, Iowa, all our mouldings, newels and hand rail and fancy sash; and we can pay freight and duty and save 40 per cent, easy.

We purchased a small combined rip, cross-cut and hand saw with 3-inch jointer. It is ball bearing and runs fine with two-horsepower motor. We have rigged up an emery on one corner and grind everything in sight. We even rasp up wood work on it and sharpen our pencils on it. We make a lot of storm windows, cutting our tenons on the rip, plugging out our mortises on a foot power. We have ripped up 6 by 6 timbers by turning them over and cutting 3 inches each time and resawed 8-inch boards on the rip and finished on the band saw. That little machine has paid for itself in six months.

I came to this town from Manitoba eighteen months ago; got my first contract and started in, determined to show what I could do. I have always made it a point to give my customers more than they bargained for and have never had

to hunt work, for one satisfied customer is the best ad. a fellow can have. We built nineteen houses this summer in seven months; have also kept a man busy in the shop, and now we have enough to keep four men in the shop.

In the winter I usually draw plans for houses to be figured on in spring. I think the contractor who draws his own plans has a decided advantage over the man who cannot, or who has no taste for such work. He comes in personal contact with the prospective builder and makes the suggestions, and if he is up-to-date, as he should be, he can prove it by showing samples of the latest thing in paper, roofing, brick, mantels, painting and color schemes, floor varnish etc.

I put in my first cabinet—dining to kitchen—for nothing to get the idea started. Have put in three this summer as a result.

Don't be afraid to give something for nothing once in a while. People like to tell about it, and you will get it back sometime somehow.

I got sick of having painters come on after me on a job and spoil our nice lumber by covering the beautiful grain with a coat of some cheap dope or other to stain the wood. So I hired a good man myself and bought our paint and varnish wholesale. Got a good alcohol stain and had him put it on and rub off again to bring out the beauty of the grain; then one coat liquid filler and one coat varnish make a very good finish.

We get a profit on the paint and a far better job than we did when sub-letting to painter contractors.

Our greatest trouble has been to get people to wait for their houses long enough to get the plaster dry; then they kick because the doors swell and won't work and the floors shrink, etc.

I always aim to work on the job myself and keep the gang together. Start ten men on a frame house and hear people talk about how we push the work ahead and don't keep people waiting all summer for their houses. I have Radford's Encyclopedia of Construction and find it ever useful.

FRANK G. MYERS,
(For Myers & Turner.)



How to Make and Stretch Wire on Screens

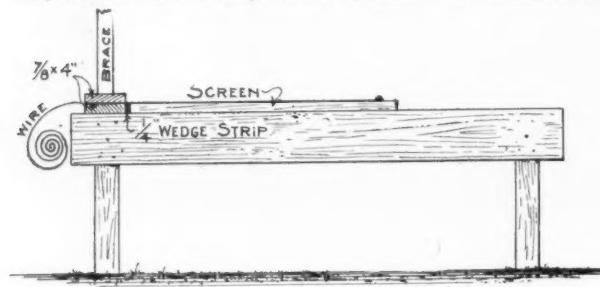
To the Editor:

New York City.

I see James A. Dezell, of Greensboro, Florida, writes that he would like to know how to make the frames for door and window screens, without mortise and tenon, and how to stretch and fasten the wire.

This is the way I make frames, which last for years. I

have rewired many of them years after, and find that they hold up well. To begin, I buy all lumber for the frames ready milled, made from stuff $\frac{3}{8}$ by 2 inches, white wood; the stiles are grooved to work on slides made from $\frac{1}{2}$ by $\frac{3}{8}$ inch, also of white wood, which is nailed to the outside casing



Screen Wire Stretching Bench

of the window. The screens are made to cover one-half the window only. The stiles are nailed to the top and bottom rail with 3 inch slim wire nails; we also use corrugated fasteners to draw the joints up tight.

In stretching the wire, we fasten first on one side with tacks, and fasten a $\frac{3}{8}$ by $\frac{1}{2}$ inch round moulding over the tacks; then stretch the wire tight and fasten it on the other stile; then fasten it on top and bottom rail and then finish putting on the moulding. When the wire is put on in this way it will help to hold the frame together.

The door screens are made in the same way, only with heavier material, the wire is first tacked to the bottom rail, then stretched and tacked on the other rails and stiles and moulded off in the usual way.

I stretch the wire as follows:

Across one end of my bench I screw a piece of $\frac{3}{8}$ by 4 inches; then I lay the frame on the bench with one stile against the $\frac{3}{8}$ by 4 inch piece; tack the wire to the other end stile and stretch wire across the frame and over the piece screwed to the bench, on which I place another $\frac{3}{8}$ by 4 inch piece, and on this an upright brace is placed to a cross beam or ceiling of shop. Then raise up the far end of the screen and place a $\frac{1}{4}$ -inch strip between the frame and 4-inch piece, and force the frame flat on the bench again and by so doing it will stretch the wire tight as a drum.

GEO. P. SCHILDWACHTER,
Carpenter Contractor.

The Length and Cuts of Purlin Posts

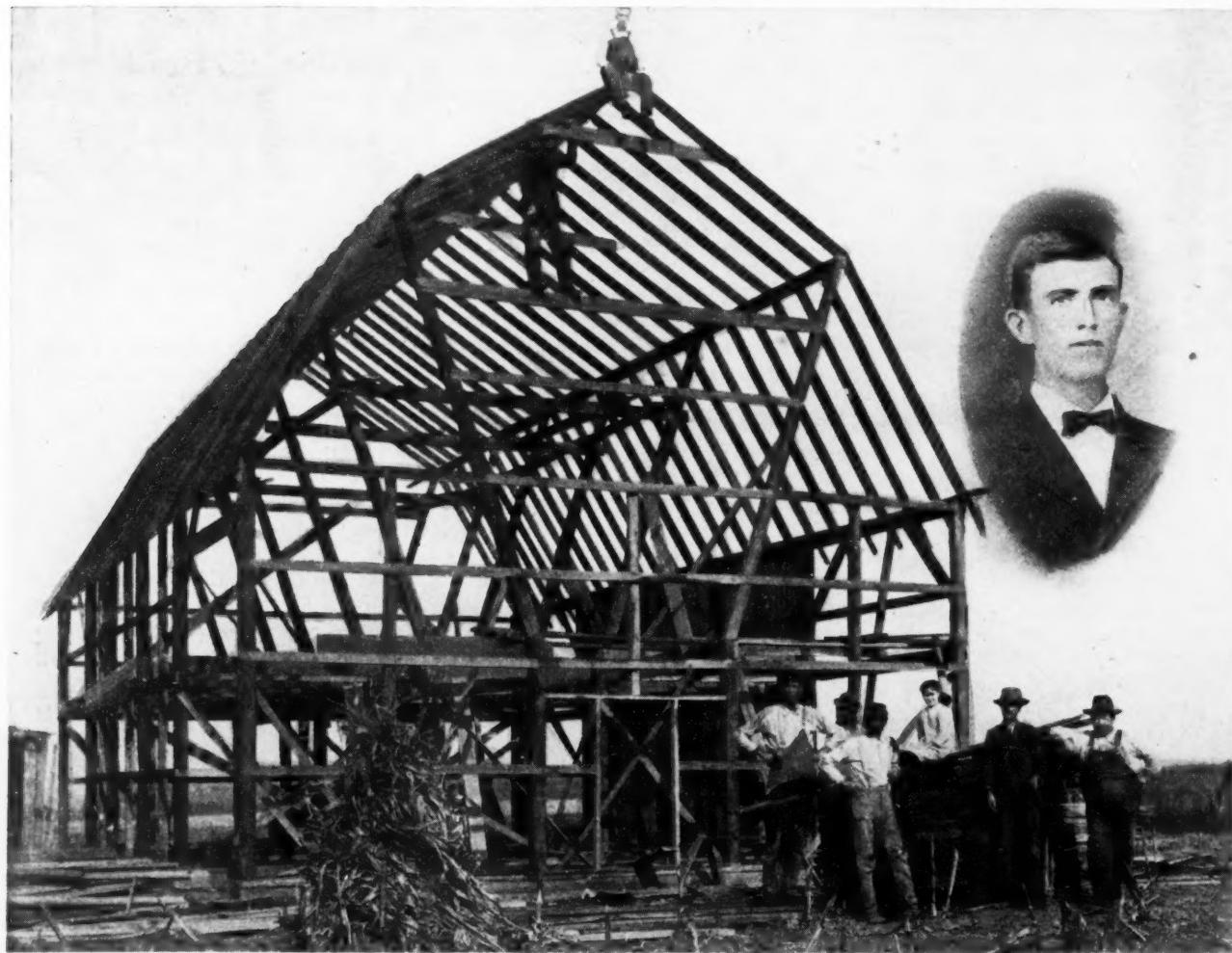
To the Editor:

Elkland, Mo.

Find enclosed a photograph of a barn 38 by 50 feet, which I am just completing. Ask Mr. Woods to give a way, the best steel square method for finding the length and cuts of the purlin posts in a frame like this one. I cut everything from a draft neatly drawn to a scale. F. M. COFER.

Answer: In problems of this kind, it is better to work to a scale, as mentioned by Mr. Cofer, unless one is thoroughly familiar with the different pitches in the roof and how to handle the square to get the cuts, for in that way mistakes are less liable to occur, because there are too many points involved to carry in the mind.

Now, to begin with, there are two pitches in the roof and the span of the building is 38 feet. This means that the total run of the two pitches must equal one-half of the span, or



Builder F. M. Cofer and Crew and one of Their Creations

19 feet. The rise of the first pitch, plus the extension below the foot of the rafter to the bearing plate on which the purlin is to rest, will give the rise to top of the purlin plate. The next thing is to know the size of the purlin plate and how the post is to cut against it and the proper deductions to make for same. After these points have been determined, it may then be treated for the length and cuts the same as for a common rafter, with the addition of the bearing cut on which to rest the purlin, as shown in Fig. 1.

Note: The depth of the purlin is 8 inches and the long side of the post intersects it 4 inches down from the top; this must be deducted from the total rise of the purlin. Then again, if the foot of the purlin must rest at a certain point from the rise line, the thickness of the purlin must be allowed from the run, as shown. Having the run and rise of the purlin post established, proceed to find the length and cuts, as in the case of a common rafter, allowing for the shoulder which in this case, is simply a square cut from the plumb line, starting 4 inches down from the top.

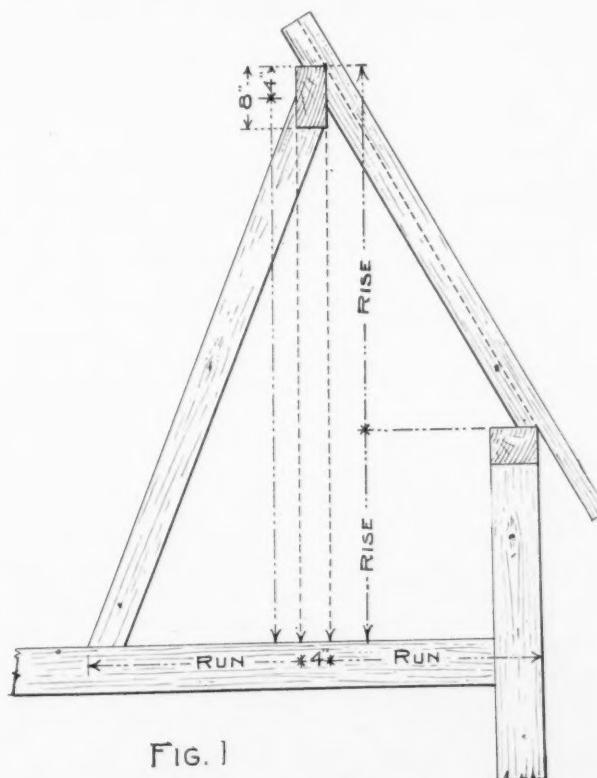


FIG. 1

Cuts for Heavy Barn Framing—Purlin Plate Vertical

Sometimes the purlin plate is set at right angles to the pitch, as shown in Fig. 2, which still more complicates arriving at the measurement points and in cases of this kind it is better to make a draft full size of the purlin in the position it is to rest, so as to get at the proper deductions to make from the rise. Having this part determined, proceed as before for the length and cuts but in reference to the plumb cut, do not make the cut, but we need the plumb line from which to reckon for the proper cut to fit against the purlin.

Now, here is something good. Don't forget it. Listen! In joining a pitch against another, lay off the cuts in the usual way for the first member just as though there was no other cut to make and to these lines apply the square with the proportions that are required to make the cuts of the pitch to which it joins. For instance, in this case, the common rafter has a rise of 18 inches to the foot and the purlin post has 24 inches to the foot. Now, since the purlin plate is at right angles to the rafter, it is necessarily at the same pitch.

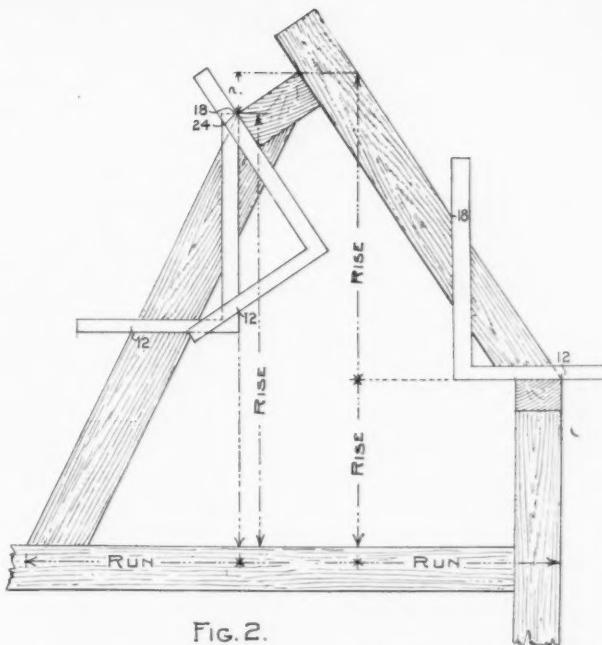


FIG. 2.

Purlin Plate at Right Angles to Pitch

Then 12 and 24 give the plumb line and to this we apply the square at 12 and 18; this will give the cut to fit against the side of the purlin, as shown, and as the other cut is at right angles to this cut, it is easily obtained. A. W. Woods.



What Gas Will Do

To the Editor:

Cincinnati, O.

This is not the result of a cyclone or is it the work of an earthquake, but it is the freakish work of a natural gas explosion in Dayton, Ky., near Cincinnati.

Although there were five people asleep in the house at the time of the explosion, yet not one of them was hurt. Their escape from death or severe injury is considered miraculous.

Just what caused the explosion is not known, but the family retired late in the evening and left the kitchen gas range lighted in order to take the chill off the down-stairs rooms. The crash came about midnight. When the family gathered themselves up, they found that both sides of their home had been blown away and a part of the rear wall gone. Bricks and mortar was scattered everywhere but no one was hurt. Why the building did not collapse after the walls were gone and from the terrific shock, is a mystery to builders who ex-



Nobody was Injured

a mined the structure after the explosion.

The building is a total loss and will have to be razed. The structure was fully covered by insurance, but as the policy did not cover natural gas explosions, the owner will loose his home.

J. R. SCHMIDT.



Short Method of Calculation

To the Editor:

Elkland, Mo.

To those whom it might benefit, I will give a simple rule for counting lumber. Now, for instance, we have eight pieces of 2 by 8 inches by 18 feet, we would write it this way,

8—2—8—18

12

and use cancellation; always use 12 to divide the product of the number of pieces, thickness, width and length, thus:

$$\frac{8 \times 8 \times 18^3}{72} = 8 \times 8 \times 3 = 192$$

I use this method and find that I can count faster and with less chance of making mistakes than by any other method. The more calculation there is in the problem simplifies the final result.

FRANK M. COFER,

Building, Painting and Paper Hanging.



How About the Tangents?

To the Editor:

Centralia, Mo.

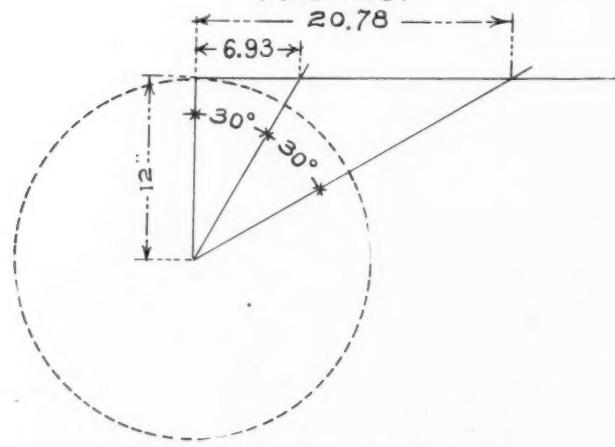
Will you please explain how to find the tangents for the degrees and explain what is the tangent for nine degrees? I know from reading your books, "The Steel Square and Its Uses" that the tangent for ten degrees is 2.12 and for thirty degrees it is 6.93; but how do you find the tangent?

ROY R. BRYSON.

Answer: The tangent is a straight line touching a circle at right angles to the radius, as shown in the illustration. It can be of any length; but for calculation purposes, it is reckoned from unity. A line from the center of the circle intersecting the tangent line, determines the length of the tangent for the triangle, thus formed. In other words, it is

TANGENTS.

20.78



the short side of a right angle triangle, or if it is next in length to the short side, it is then called a co-tangent.

Now, by letting 12 inches of the tongue of the steel square represent one of the sides of the triangle and by letting a line from 12 on the tongue to any point on the blade, represent the hypotenuse side, then the remaining side represented by the blade from point of intersection, represents the tangent and remains so until it passes the 12 inch mark (on the blade); and then on up it is called the co-tangent.

As to how we get the length in figures; that has long since been determined by the old time mathematicians, dating back hundreds of years; and the work has been very well done, not only for each degree, but for the divisions of the degrees, called minutes (60 parts for each degree) and that too carried out to the seventh decimal place. Any of the engineers' hand books contain these tables; and all the calculation that is necessary is to multiply the figures given by 12 to find the length of the tangent for one foot, it is an easy matter to find the length for any number of feet.

Now, as to the length of the tangent for nine degrees, it is practically 1.9 for one foot. That is equal to $1\frac{3}{4}$ inches and is the length of the side of a polygon, having 20 sides, with an inside diameter of one foot ($180 \div 9 = 20$).

See our article, "Possibilities of the Steel Square," in connection with the framing in this number, also the article in the June number on Page 59.

A. W. WOODS.



Slope of Steam Heating Mains

To the Editor:

Beaverton, Ont.

Kindly let me know if a low pressure gravity return steam heating system would work satisfactory if the main pipe had

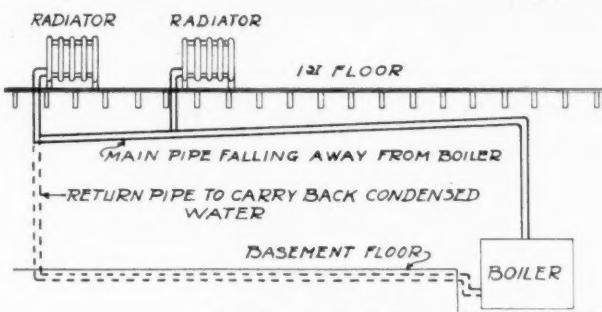


Fig. 1. Proper Piping Slope

its highest point near the boiler and a gradual fall away to the other end of the building (so the condensed water would run with the steam) and then dropped to a return pipe near the floor. Or does it work more satisfactory with the highest point away from the boiler, so condensed water will run back along the bottom of main pipe against the steam?

I herewith enclose sketch that you may properly understand my question.

JAMES SNELGROVE.

Answer: You would receive better service from a system arranged with the main pipe and return put up on a slope

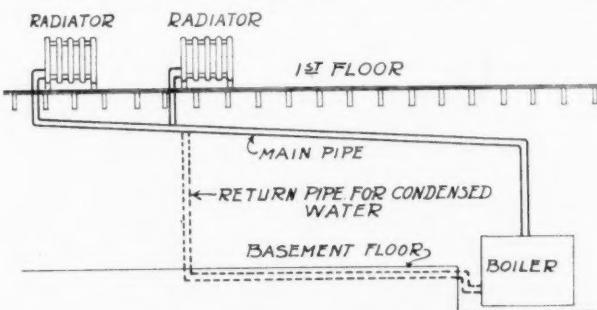


Fig. 2. Piping not Properly Sloped

as shown in the first sketch in your letter. That is, the highest point in the system should be at the elbow in the main pipe directly over the boiler. The main would then gradually slope downward throughout its whole length and continue dropping until the return connection at the boiler was reached. This allows a drainage of the entire system into the return connection from the time when the steam reaches the elbow on the steam main located directly over the boiler.

EDITOR.

Substantial Town Hall

To the Editor:

Following your suggestion of "Sure, Send Them In," I will give you a little idea of what we are doing here in the East. A while ago I used to get an AMERICAN CARPENTER AND BUILDER when the opportunity offered itself, but was not very much impressed with it for the simple reason it had so many

Bloomington, N. Y.



\$5,000 Town Hall Built by Mr. D. W. Bell at Bloomington, N. Y.

advertisements and looked as if the editor was doing it to make money. About a year ago I became one of the subscribers, getting my magazine every month, as I did not want to miss anything. Now I am not only using the advertisements, but some of the ideas given in the reading pages as well. I am the youngest contractor in this section and have all I can attend to, keeping from five to ten men the year round. I will enclose a photo for our Town Hall, for which I got the contract against three others, by the narrow margin of \$17.50.

The first story was built of concrete blocks, which I made on the ground in early fall, starting the building December 2nd. It took 2300 blocks. The building is 37 feet 5 inches by 90 feet, first ceiling being 14 feet high. You will notice the pilasters of poured concrete. They are built to carry the

iron girders, which are 26 inches deep, 37 feet long and weigh 40 pounds to the foot.

As I had no derrick, everyone was wondering how I would place them. I had four jack screws and used them two at a time, raising the girder 14 inches at each setting. I had my blocking cut the right length, and so worked with no delay, putting all the girders in place in eight hours with four men besides myself. As the side walls were all up, we had to raise the girders diagonally across the building. Then, when they had cleared the wall, slipped a 2 by 8 under and slid each girder into place, that was the hardest part of the work.

The first floor consists of main auditorium 65 by 35 feet, raised platform at one end 16 by 25 feet, with dressing rooms on either side. There is a 10 by 12 entrance and two 10 by 10 check rooms. On the second floor there are large lodge room, dining room and kitchen; also coat rooms, etc. The building cost complete \$5,000.

D. W. BELL.



Eighty-four Barns Like This

To the Editor:

Urbana, Ohio.

Please find enclosed \$2.00 renewal for another year.

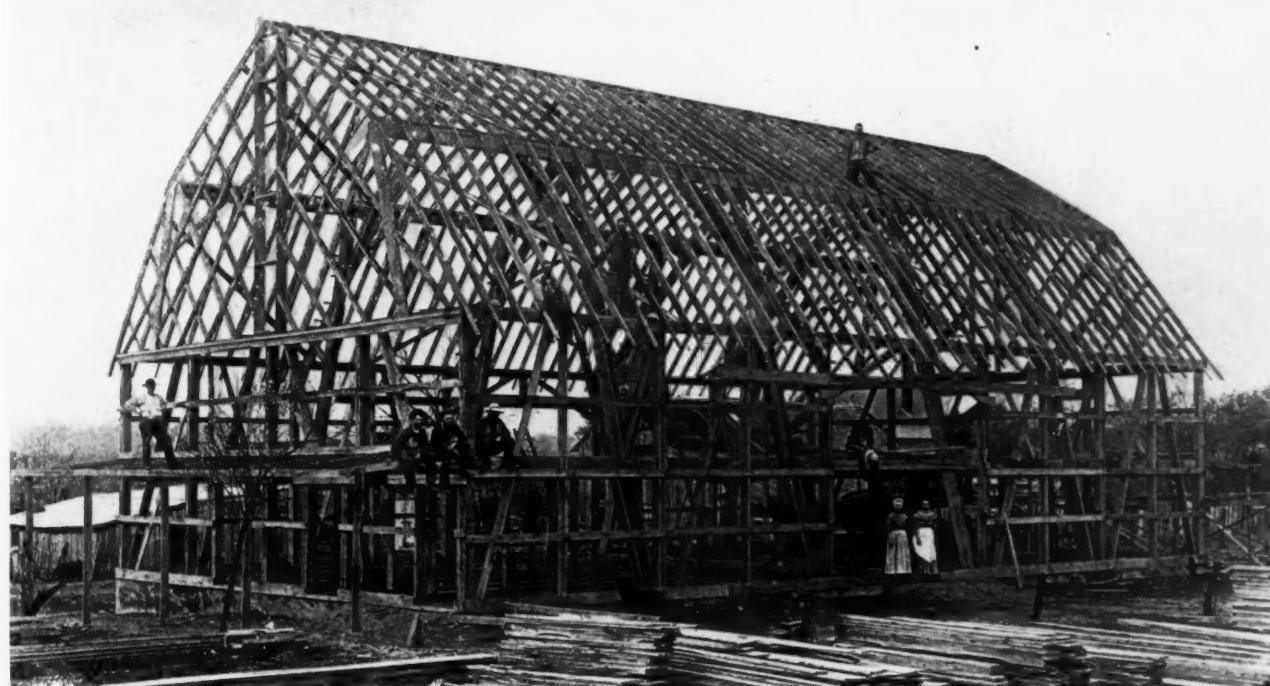
I am sending you a postal photo of a barn I built this summer size 44 feet wide, 76 feet long. I built the barn complete in fourteen and one-half days with seven men. I am kept busy with this kind of building during the summer season. Am now getting out timber for my 83rd and 84th barns, with good prospects for several more this summer. I also will build several houses.

You will see me standing farthest to left; then comes J. S. Hill, A. W. Shaffer, and John Gearhart; a little higher up in line through rafters are the three McLaughlin brothers, above the women is also John McLaughlin.

This barn has two rows of horses, three box stalls, one row of stanchions for cows, and two storage rooms for machinery.

I don't see how any carpenter could do without the magazine as A. W. Woods' articles are "Peaches," to the point and easy to learn with a little thinking.

W.M. V. LEE,
Carpenter and Builder.



Skeleton of a Finely Constructed Plank Frame Barn by Builder Lee and his Men

Popular Colorado Bungalow

To the Editor:

Inclosed you will find photographs of a bungalow that I have just completed for myself. It has five rooms, with basement under the entire house. Has beach-wood floors throughout; fire place, buffet, three panel birch doors. The walls are tinted; trim is white enamel; doors are stained ma-

Canon City, Colo.

hogany. The house has furnace heat and modern plumbing. Altogether the house is attracting a great deal of attention. Now if you can find room in your most valuable paper for this it would please me greatly.

I will say that the plan is one of my own and is similar to several more that I have built in this community.

I think the AMERICAN CARPENTER AND BUILDER is the paper and comes as near the needs of the hour, namely, efficiency,



Front View of Bungalow

as any thing on the market today. Wishing you continued success, also a merry Xmas and a Happy New Year, I am
Very truly,

S. D. HECKART,
Per Heckart & Son, Contractors & Builders.



Well Planned Bungalow

To the Editor:

Beaver Crossing, Neb.

Here are photo and floor plan of a house I planned and built for myself at a total cost of \$1,400. It is finished throughout with yellow pine, all rooms stained light oak, except library, which is stained green weathered oak.

I have put up some of the best residences this year in this locality. Perhaps I can send you photographs of some of them. For some of these I drew the plans myself. I think



Very Attractive Five Room Bungalow Built by Heckart & Son, Canon City, Colo.

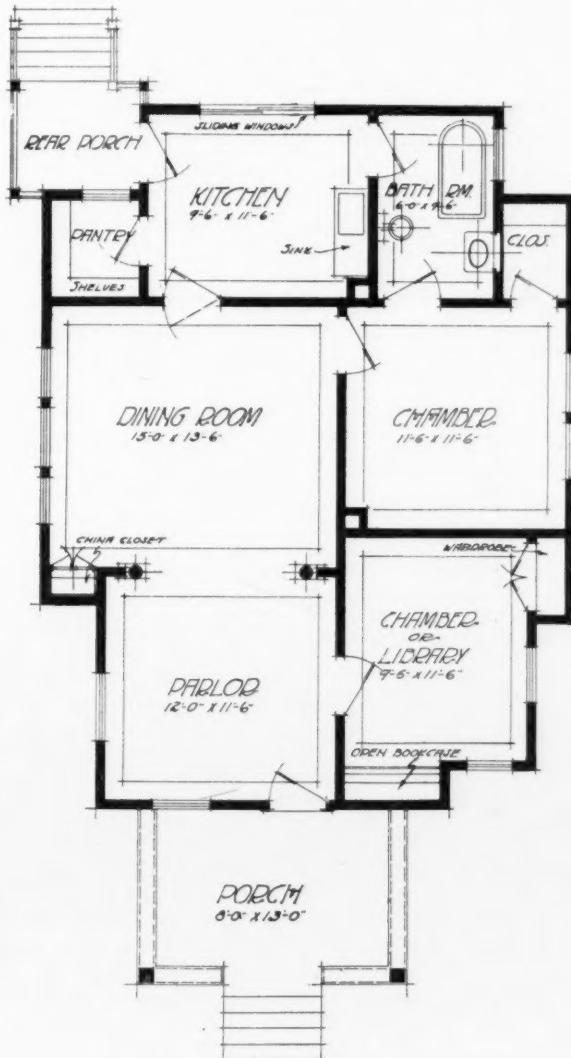


5-Room Cottage Built by Henry Cain for \$1,400

every contractor ought to be able to draw plans for his own work.

I am a charter subscriber to the AMERICAN CARPENTER AND BUILDER, and would say I cannot get along without it. It is a great help to young men in the building trades, and also to some of the old heads. I am fifty years old and will say I learned something on every building I put up.

HENRY CAIN,
Contractor and Builder.



Floor Plan of Cain 5-Room Cottage

Two Problems Checked

To the Editor:

Ada, Ohio.

I am following your suggestion given in the December issue and I wish you would send me "Brick Houses and How to Build Them" and a year's subscription to the paper for my Christmas. Enclosed you will find a money order for \$2.00. Also you will find enclosed solutions of the two problems published in the November number of your paper on Page 90 under "Who Will Check This?" and "Not Sure of His Answer."

Not Sure of His Answer

To find the load per sq. ft. of floor surface, given the joists of 2 by 10 inches placed 16 inches centre to centre, supported 10 feet apart at each end, using bending strength of 1000 lbs. per sq. inch.

$$\frac{16 \times 120}{144} = \text{Area in sq. ft. of floor surface one beam has to carry.}$$

Let w = load per sq. ft.

$$\left(\frac{16 \times 120}{144} \right) w = \text{Total weight carried by beam. Let this total weight be denoted by } W.$$

$$M = \frac{I}{p_e} = p \left(\frac{bd^3}{6} \right) = \frac{1000 \times 2 \times 10^8}{6}$$

But $M = \frac{1}{8} Wl = \text{maximum bending moment for simple beams}$

$$\frac{1000 \times 2 \times 10 \times 10}{6} = \frac{1}{8} Wl$$

$$= \frac{1}{8} \times \left[\left(\frac{16 \times 120}{144} \right) w \right] \times 10 \times 12$$

$$\frac{200000}{6} = 200 w$$

$$w = \frac{1000}{6} = 166.6+$$

Who Will Check This?

$$l = 12'$$

$$b = 2"$$

$$d = 8$$

$$'w' \text{ per sq. ft.} = 75 \text{ lb.}$$

$$S = 1000 \text{ pounds per sq. inch}$$

$$\left(\frac{16 \times 12 \times 12}{144} \right) 75 = \text{Total weight carried by joist}$$

$$M = p_e \frac{I}{e}$$

$$\frac{1}{8} Wl = p \frac{bd^3}{6}$$

$$\frac{1}{8} \left(\frac{16 \times 12 \times 12}{144} \times 75 \right) \times 12 \times 12 = \frac{1000 \times 2 \times d^2}{6}$$

$$d^2 = \frac{12 \times 12 \times 75 \times 2 \times 6}{1000 \times 2} = 64.8$$

$$d = 8$$

The "Noon Hour Talks by the Boss Carpenter" are good stuff, and I like to see such instructive matters in your paper every month.

PATRICK WHITFIELD,

Note: We have placed the calculations submitted by Mr. Whitfield in the hands of the Boss Carpenter for checking and understand from the Boss that the first calculation for load per square foot of floor is correct and compares with that checked by Mr. Bell in the December, 1912, number.

While the answer to the second calculation—which gave a depth of 8 inches for a joist to carry 75 pounds per square foot floor load with a length of joist equal to 12 feet and a width equal to 2 inches where joists are spaced 16 inches center—is satisfactory so far as strength of joist is concerned, we believe that the deflection in this case would be a little greater than 1/360 of the span. In other words, a 2 inch by 8 inch joist would not be stiff enough for use in this case if any kind of a plastered ceiling was to be used on the under side of the joists. For a stable floor, 2 inch by 8 inch size would probably be sufficient if the timber runs full size.

EDITOR.

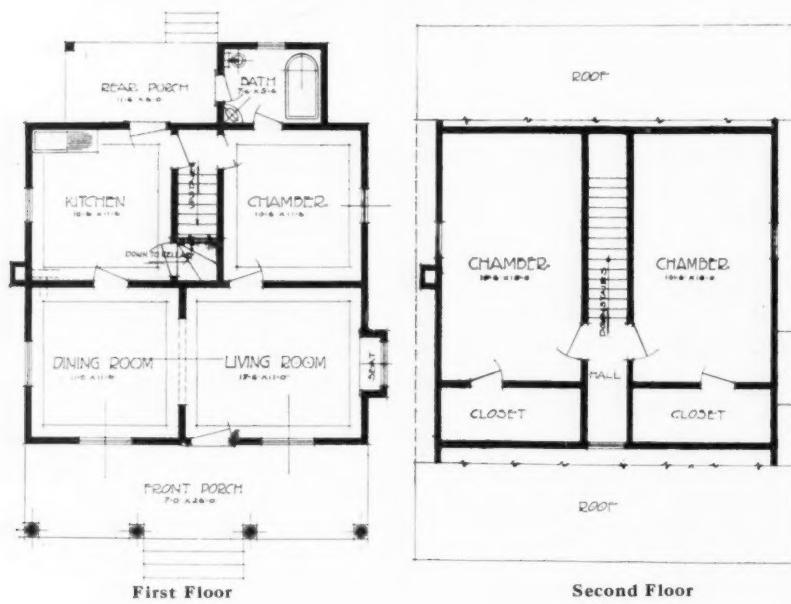
Good Bungalow for \$1,350

To the Editor:

I am sending you a photo and plan of one of three bungalows I have built in Otsego this year. Two of them are exactly like the sketch enclosed. These bungalows are 24



Cottage Built by Contractor H. L. Johnson for \$1,350



by 26 feet, exclusive of porch, with 10 feet studdings. Cost complete, wired for electric lights, piped for gas, and plumbing was \$1,350. This is considered a splendid house for the money.

They are finished in yellow pine pilaster casing downstairs and plain casing upstairs. I used No. 1 redwood siding and best grade of shingles, and everything in proportion. Now, if some of my brother carpenters can use this I shall be glad.

HERBERT L. JOHNSON,
Contractor and Builder.

Readable Markings

To the Editor:

San Rafael, Cal.

One day last month it was dark and cloudy. I sent Phillips (which is not his name) down to the Lowell job to lay off the roof. He used his own square. One of the apprentices has been instructed to time him accurately. It took two hours and eighteen minutes to lay out that roof.

Last week I handed Phillips a new square, dull finish with white figures, and requested him to use it in laying out another

roof on the same shape but varying slightly in measurements, as the Lowell roof. Again, unknown to himself, he was timed. He laid out this second roof in one hour and fifty-six minutes. A difference of twenty-two minutes!

Now what made the difference? In the interval he had not touched a rafter. I had kept him on other work purposely. So it was not *practice*. It was the difference between readable and nearly un-readable markings. Phillips' square was old and rusty and unless the light was reflected at just the right angle he could not read it at all. The new one on the contrary was easily readable in any position.

I happened along just as Phillips was finishing the second roof. "Say," he exclaimed enthusiastically, "This gun metal square with white figures is a peach! Where did you get it? I'm going to get one for myself at noon." I told him where he could get it and then asked his reasons for liking it so well.

"Well, just look here," as he reached across a board and laid it down, "I can slam it down any old way and see the figures. Don't make any difference *how* it lays—the figures on it are plain as day. It saves time. I never thought of it before. But I sure laid out this roof quicker than I did the Lowell job. Then there's another thing. This gun metal don't blind a fellow with its flash like the nickel plated or polished ones do. I'm going to get *all* my tools finished gun metal after this—at least all that I can."

Now there is the lesson. How many can learn it as quick as Phillips did? There is more time lost trying to read old rusty tools than anybody has any conception of—at least until they have made a little study of it. Prove it for yourself. Take a stop watch and hold it on some workman. Watch him closely and record the time he loses in trying to read the figures on rusty squares, dirty rules, and the like. It will be a decided surprise to most people.

Nickel plated and polished tools do nicely on inside work or cloudy days, but the temporary blindness caused by the flash in bright sunlight causes the loss of many and many a minute of valuable time in the course of the year. Blued squares with red, white or yellow figures are good, but the gun metal is best of all. It is equally readable on bright sunny days, on dark cloudy days, inside or outside, or by artificial light.

Here's to gun metal finished tools! May they prosper and live long.

H. J. BLACKLIDGE.



Largest Stave Tank in Adirondacks

To the Editor:

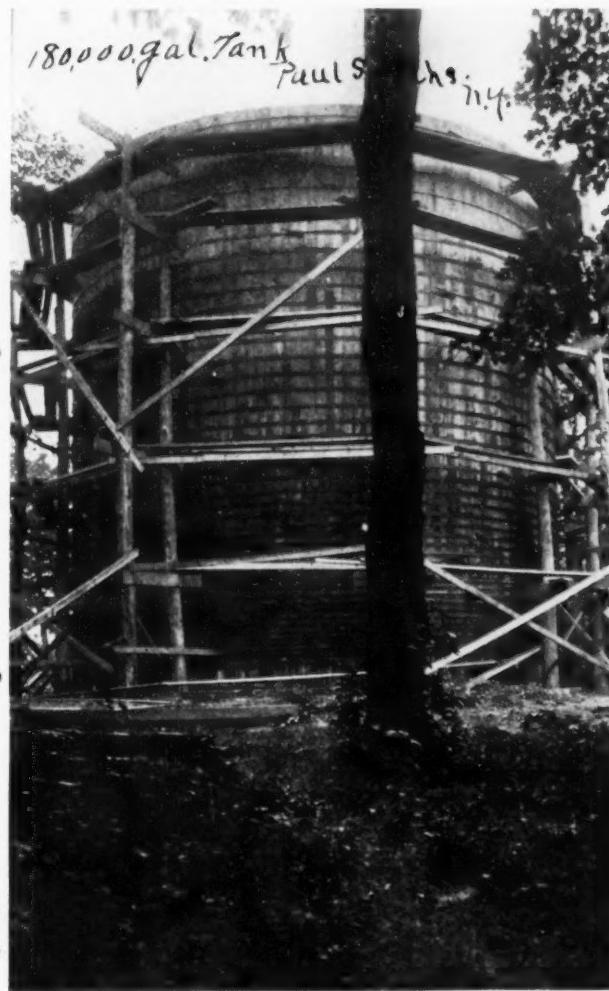
Paul Smiths, N. Y.

I am enclosing a photograph of the 180,000-gallon wooden tank and also detail sketches of its construction, by Mr. Charles Nichols, engineer, for the Paul Smiths Hotel Company, which is the largest company doing business in the Adirondack Mountains. In order to have a constant supply of water, it required a tank with a capacity of at least 175,000 gallons; and as the water is spring water for drinking purposes, as well as for general supply, the preference of white pine in its construction is apparent. We erected a center post; and, from it as center, struck a cord whose diameter was 33 feet 2 inches, inside of which we set up our form for concrete foundation, by standing planking up and nailing to horizontal segments of the circle, keeping the distance from the center to inside of form thus made, just 16 feet 3½ inches.

We cut our staves $3\frac{1}{2}$ by $5\frac{1}{2}$, beveled $1/16$ th of an inch at edges, leaving inside face of stave $5\frac{1}{8}$ inches. We cut our staves into three lengths to splice up into 30 feet, numbering each from 1 up and tied three pieces to bundle. Sawed bottom of stave to fit shoulder of form $2\frac{1}{4}$ by $2\frac{3}{4}$ inches. Sawed gains for galvanized iron (white leaded) joints in splices. The bundles being made up and numbered, consecutively on 30-foot bench, precluded the possibility of getting joints closer than a break of 4 feet and then no delay in setting upon the foundation, as every stave bottom was on top of bundle, the second piece in the middle and the top at the under side, and when drawn from the mill placed radiating out from foundation in consecutive numbered order, No. 1, 2, 3, etc., with bottom end of stave 8 feet from foundation. This allowed us to pick up just the stave we needed and gave us room to get a staging up, as appears in the picture.

We began at number 1, set up our staves and plumbed; stayed from timber laid on the inside of the foundation, using no nails in staves, as it is a waste of time, unnecessary, and causes decay to bore holes for nails, as the silo specialists of the September article advise. Why, my job would not be good a minute if the Boss saw such time-killing, timber-spoiling on the plant.

When we had set all but five of the staves, we found there

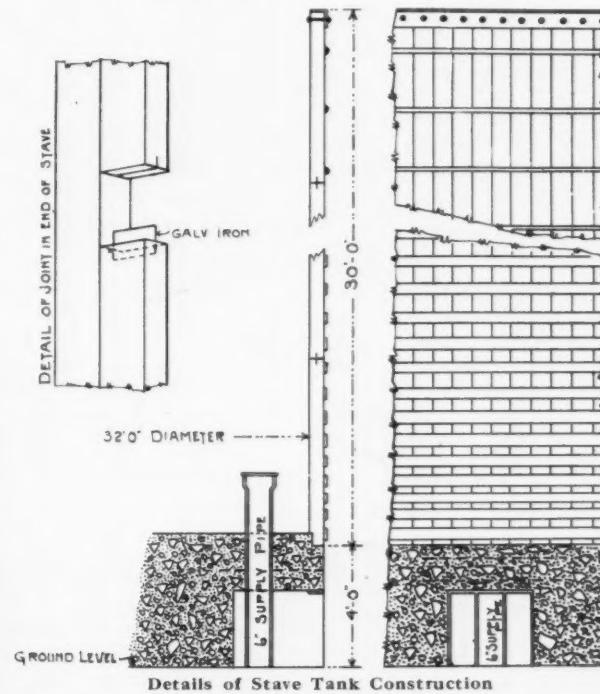


Huge Stave Tank at Paul Smith's, N. Y.

was apparently room for only two. I measured up the cracks and found, if they were closed, the rest of the staves would go in very nicely. I then put on my first hoop, 1 inch up from the lower end of stave, leaving it loose and propped to hold in place. Five feet up I placed another, held in place

by blocks nailed to stave under it every 15 feet. I inserted jack screws between the staves and closed the cracks half way to the North side, put in four staves to fill; then to close the remaining cracks on the North side, took out two staves, and with the jack screw, repeated the pressing of the staves together. When I had closed all the cracks, I had room for the rest of my staves. I blocked staves at bottom and top, took out jack and put in staves. This filled the hole. This completed only our bottom course, but the rest was easy; just going around and inserting white leaded, galvanized iron in gains at splice joints, and setting up the staves in consecutive numbered order. We put on a hoop occasionally to the top.

We began at the bottom, then, and put on 42 hoops. The



first 15 hoops are made of $2\frac{1}{2}$ by $\frac{1}{2}$ Norway band iron with threaded stubs, welded on $1\frac{1}{4}$ inches in diameter; the rest are 1-inch stubs. Hoops are all in three sections, with 20-pound lugs to strain against in tightening up bands. The first four bands are $1\frac{1}{2}$ inches apart, then they spread to $1\frac{3}{4}$, 2 , $2\frac{1}{4}$ inches, and so on. A quarter of an inch more between each until the fifteenth band is on, the sixteenth band spreads $\frac{3}{8}$ inch more than the last and gains it in width from them to the top.

The top is finished with an angle iron in segments bolted all the way around to the staves. We have had this tank full for two months and she is a bird.

Do not be afraid to put the squeeze to the staves before the water is let in, and calk only between the concrete and stave bottom inside, using oakum and white lead.

The hotel and laundry are the largest consumers of water, but aside from these, the garage and shops, elevators and lawns, cottages, gardens, golf links, camps and mill, barns, etc. use an immense quantity.

This tank is on a hill 109 feet above the plant.

The intention is to roof this tank as soon as the house closes and heat it enough to prevent freezing. The probability is that we shall use an electric heater as the company own the largest electric power and light plant in the mountains, and it is thought it will be the cheapest, and clean.

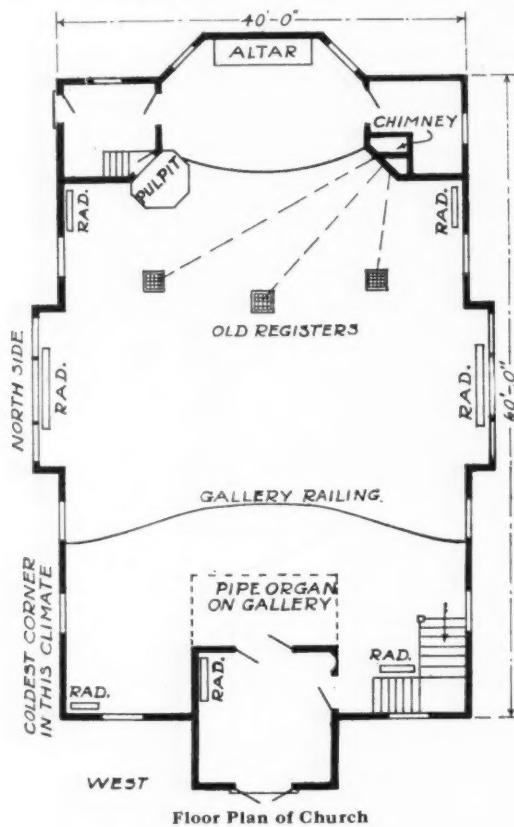
Hoping this may be of use to some of the readers and students of your paper, which we all value for its value to us, in information worth our while and our money.

W. E. McCASLAND.

To Improve the Ventilation

To the Editor:

As I would call myself one of your family, as a charter member of the AMERICAN CARPENTER AND BUILDER, I take the privilege of asking you for some help. We are giving much



thought to how to get satisfactory ventilation in our church without an expensive fan system, and so on. I have made out a rough floor plan sketch so you can see about what it is.

The church is built of brick. It was heated by a hot air furnace until now we have installed steam heat, using exhaust steam from the city power plant. We get it plenty warm, but

have no ventilation, except through windows; and that is too direct when people are in. We have also a register in chimney above the baseboard, but no inlet of air. Should not a register like that go clear down to floor? It has been suggested to run pipes from the old registers (we have in the floor) down below the joists and over to the chimney. Would there be draft when it had to go downward about a foot? But then, how and where to get fresh air in and get it to circulate? We are going to finish the basement for classrooms.

Now, I would be very thankful if you or any in your staff would give me a good idea. I know you have them. If any charges, just let me know. I am very thankful for the kindness I met when calling at your office a few weeks ago.

C. F. ALM.

Answer: We believe that you may better the conditions of this building by installing a large heating coil or radiator in the old chimney which is now out of use, and connecting the registers shown in the floor with this chimney by means of tight flues controlled by dampers. This should draw off the cold, foul air from your building, discharging it up the heated chimney. These flues should be smooth inside and have no sharp turns. Make them as short as possible.

Then we believe that openings through the wall either from a cellar window or some similar opening close at hand should be connected by a closed box to the bottom of the large radiators shown at the sides of the building. These boxes should also be controlled by dampers and so arranged that no air can get in from the outside without passing through the radiator proper.

In this way warm pure air would be furnished to the building and drawn off again after it had become cold and settled to the floor level. We believe that this scheme would be successful and would be at least a great improvement over your present condition. The details of construction are shown in the accompanying drawings.

EDITOR.

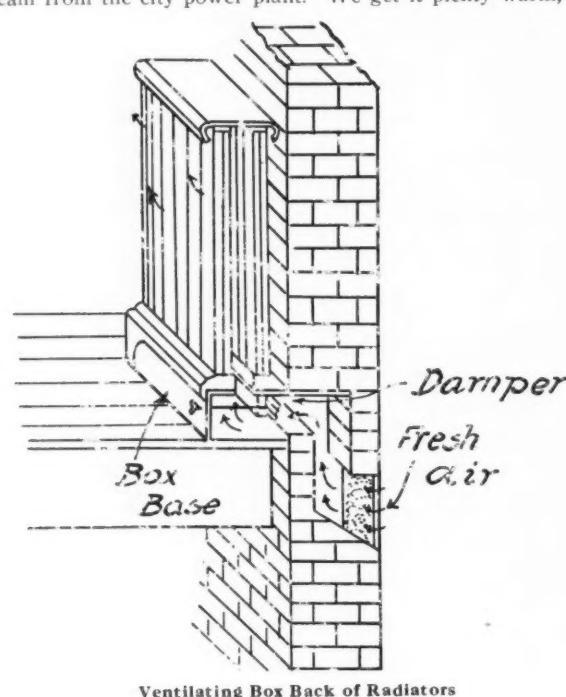
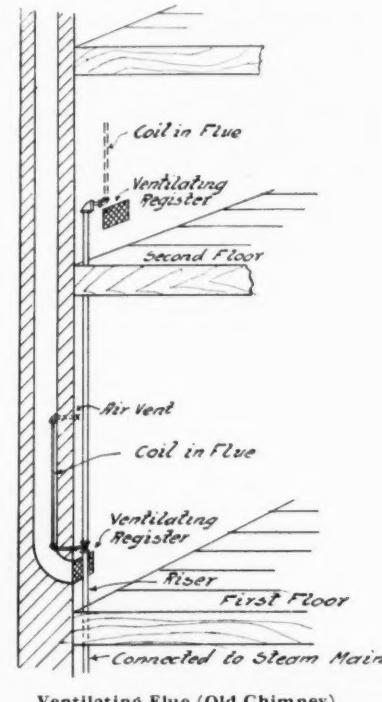
What Carries This Roof?

To the Editor:

Paducah, Texas.

As I have been getting the benefit of experience of others for so long, I will try to help out some by sending in a sectional elevation of a ware-house for cotton that I designed and built for the Cottle County Farmers Union, this fall. It is 60 by 100 feet.

Now, I would like to see one thing about this truss explained, so you see its more information I want, as well as to give it. The roof is rather heavy, and in order to hold a line in my wall until I could get my truss up, I used 4 by 4 inch braces, set against the studs, just below the plate and on a good stake at lower end and wedged in behind the bottom of brace until my line had $\frac{1}{2}$ inch curve in it, allowing that much for the settlement of the roof, but when I had finished



and went to remove the braces, all but two of them were perfectly loose. Now, what went with the weight of my roof? The rafters alone weighed over 15000 pounds. I would like to hear what some of the brother chips think about it.

I want to say a word about heavy hammers and will go Mr. Hicks one better. I use a fifteen inch handle in mine and I am fresh at night. Some of my fellow workmen sometimes ask me why I do not get a sledge and use both hands. You have no idea how much advantage three inches in hammer handle gives over the shorter handle. I was working the other day with a man that used a No. 12 hammer and I got three bangs to his two and kept it up all day and had time to see him sweat and hear him curse besides.

PRESERVATIVE DIP FOR SHINGLES

To the Editor:

Missoula, Mont.
I want to make a cheap shingle dip that will last fairly well. I have been told that mostly kerosene can be used with good success. Will you kindly let me know if you know how to make up a cheap and reasonably good mixture?

R. B. MARSCHKE.

Answer: The preservative treatment of dry shingles is easily accomplished by immersing them for about one hour in a tank of creosote (dead oil of coal tar), heated to a temperature of about 212 degrees F. In the case of damp or green shingles, it is often necessary to prolong this period in the hot oil. If, at the end of the hot bath, it is found that the oil has not thoroughly penetrated the wood, the

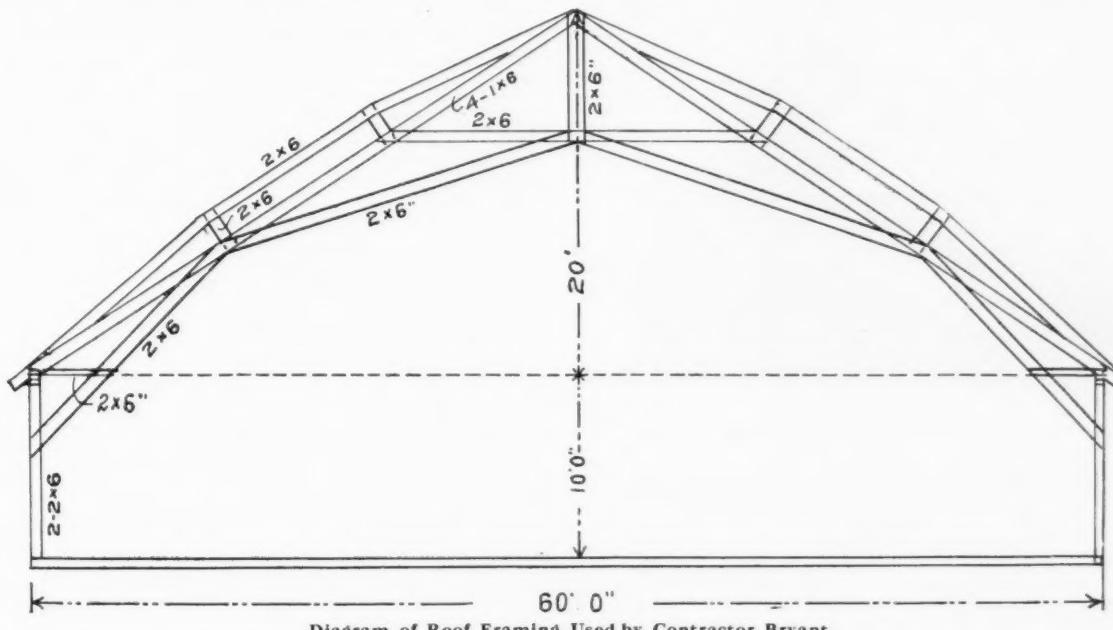


Diagram of Roof Framing Used by Contractor Bryant

I cannot see why a man cannot see that the man who applies himself to the trade and studies up, is the man that gets the good work. A number of times I have been called on to go and mount a pair of stairs or frame a roof where far older men gave it up and said it could not be done and were astonished when I proceeded to frame a hip and valley roof without making a mathematical calculation as long as the rafter itself.

I for one, would be glad to see the man who handles tools have to stand an examination and obtain licenses the same as for any other profession. Yours for better building.

JOHN F. BRYANT.



FORMS FOR ROUND CHIMNEY FLUES

To the Editor:

Niagara on the Lake, Ont.

Enclosed please find renewal. I am greatly interested in the AMERICAN CARPENTER AND BUILDER, and get a lot of good ideas out of it. I noticed an article not long ago on how to build a form for a flue in a concrete chimney on which I think I can improve.

I have been using a round 8-inch flue made of about 20 gauge sheet iron and about 2 feet 6 inches long. Have a wire rim on one end and after the concrete has set about an hour pull the flue out and you have a nice round flue which is much better than any square flue. Pipe thimbles can be made a little long and cut on the job to fit the iron flue.

By using care you can build five feet every day and it does not take long to get to the top. I find the cost about half the cost of brick.

W. EDWIN LEE, Builder.

heat may be shut off and the shingles allowed to remain in the cooling oil for an hour or more; or else they may be removed from the hot oil and quickly plunged into a cooler bath of the preservative, preferably at about 110 degrees F.

Staining of the shingles can also be accomplished in the same process. Any of the common colors can be used. They should be purchased ground in oil, not dry. Of the reds or browns, about one-half pound is required for each gallon of creosote. For greens or blues, this quantity should be increased. The color should be mixed with an equal quantity of boiled linseed oil and then stirred thoroughly into the creosote, at a temperature of about 110 degrees F.

The shingles should be immersed in the bath of hot creosote (212 degrees F.). If they are thoroughly seasoned, one-half hour in the hot oil will be sufficient. They should then be plunged in the cooler creosote and color and allowed to remain for about two hours. In this bath the shingles must be loose in order to permit an even deposit of the stain. A screen or lattice-work frame will assist in keeping the shingles under the oil. As a final step, the shingles should be spread out to dry.

If no suitable iron vats are available, the treating tanks may be constructed by a boiler maker, or sheet-iron worker. The hot tank need be only large enough for the immersion of a single bundle of shingles, unless it is desired to use it for the treatment of fence-posts or other timbers. If the heat must be applied by direct fire underneath, the metal should be heavy enough to withstand the flame—say 3/16 inch black iron, with the joints riveted and caulked. If

steam coils can be used, the tank may be of fairly light galvanized iron, the joints being riveted and soldered. The tank for the cool oil can be made of light galvanized iron.

The cost of the treatment depends principally upon the local price of creosote and the quantity of shingles which it is desired to treat. If the process is properly carried out, however, the cost of a creosoted low-grade shingle should not exceed the first cost of a high-grade shingle of the same kind, nor should the cost of creosote and staining exceed that of thorough painting; and it is believed that the results are more desirable in every way.

EDITOR.



Builder Solstad Ready for Business

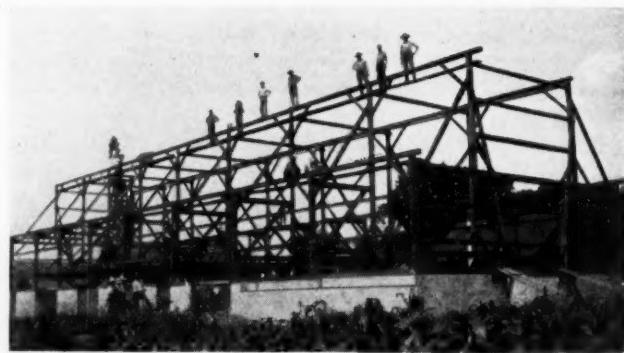
Covers Big Territory on Motorcycle

To the Editor:

N. Brinsmade, N. D.

I am one of your carpenters that use a motorcycle. This summer I have worked for an elevator company and have been on the road a good deal.

JOHN SOLSTAD.



Barn Frame by Builder Striegel and Men

Good Season's Work

To the Editor:

Sandwich, Illinois.

Have read your paper and think it is all right. Herewith find \$2.00 for another year.

Here is a picture of a frame of a barn, 40 ft. by 120 ft., that I built this year. I also built three more barns and four houses.

The times are very prosperous in this locality and there is a large call for carpenters.

Hoping you have had as good a year as I have had I remain,

GEO. J. STRIEGEL,
Contractor and Builder.



The Last of Its Kind

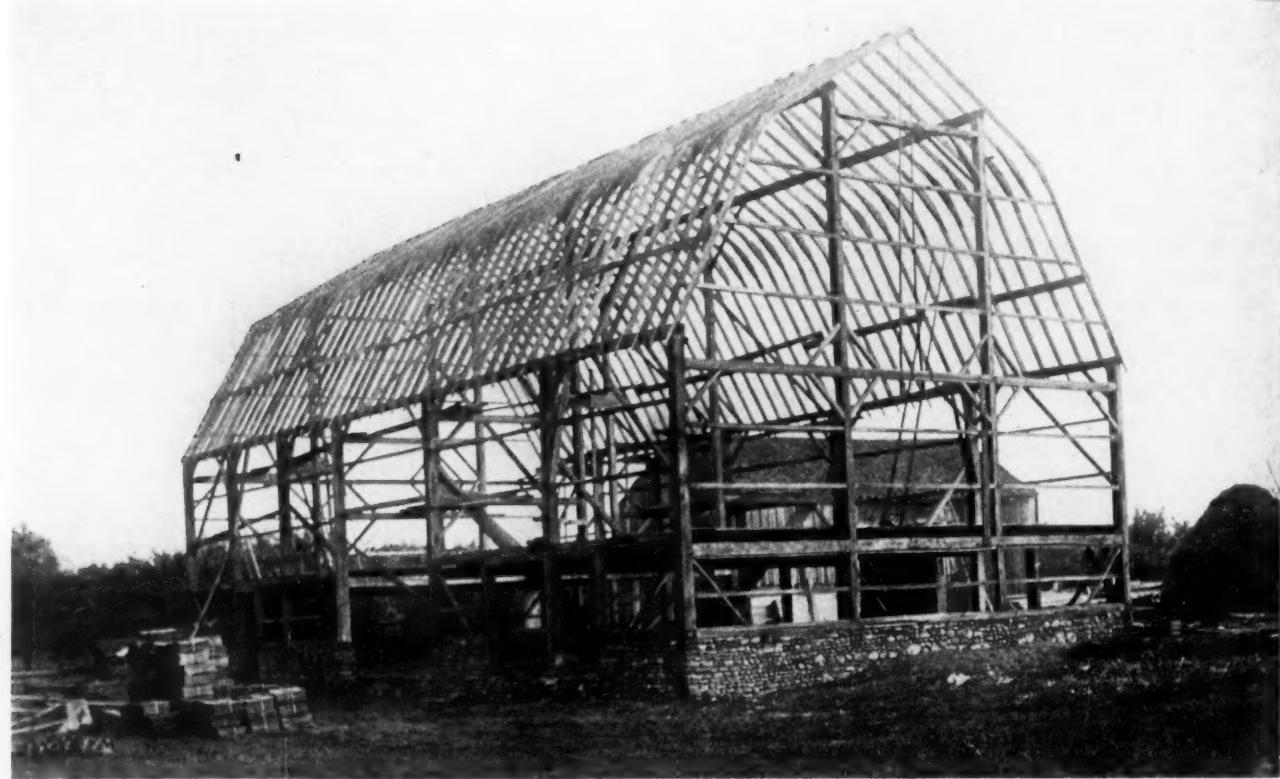
To the Editor:

Appleton, N. Y.

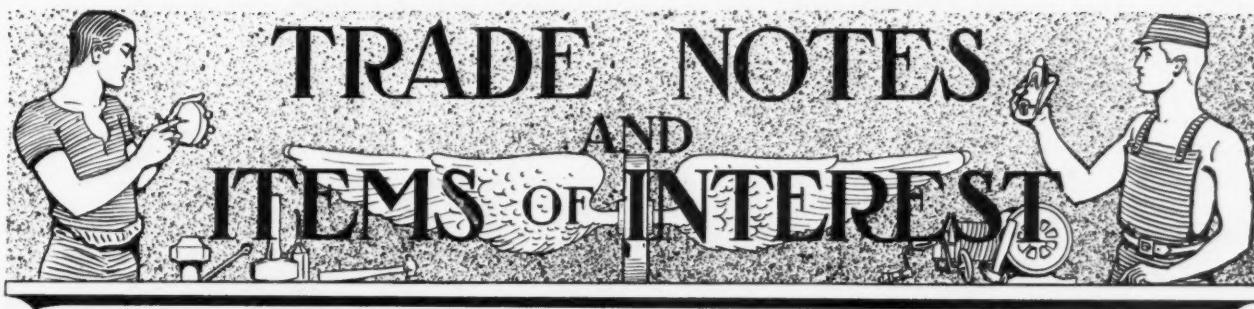
I am sending with this letter a photograph of a barn which I have just completed. The barn is 44 by 86 feet, with 20-foot posts.

This will probably be the last timber framed barn in this part of the country. The timber was about all taken from the woods on the farm on which the barn was built.

DANIEL LEINZ.



Probably the Last Heavy Timber Barn in Northwestern New York



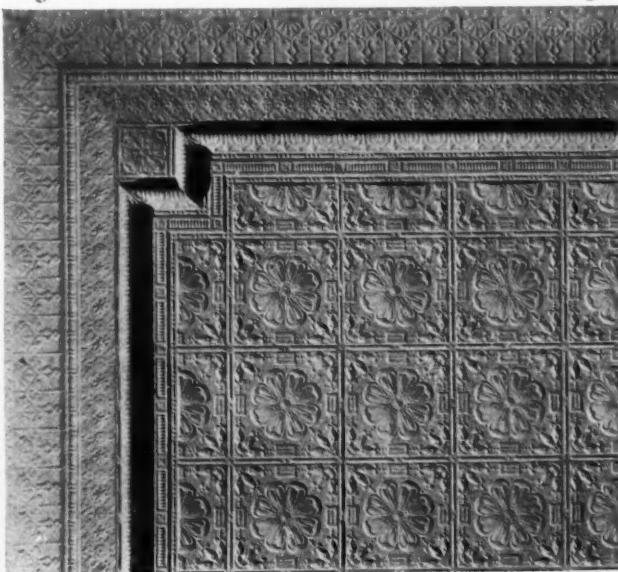
Through this department the editors aim to keep builders, contractors, carpenters and architects in touch with what their friends, the manufacturers, are doing for them in new or improved tools and machinery, methods and materials—pertaining to building. Items for these columns must have real news value; they are offered here as interesting information for our readers; they are not advertising. No matter will be printed here simply because some advertiser wishes it. Likewise, no matter will be excluded simply because the article described is not advertised in this magazine. Suggestions for the betterment of this department are requested of our readers.

Metal Ceilings for Residences

More or less discussion has recently been held relative to the adaptability of metal ceilings for private residences and the preponderance of evidence, so to speak, seems to be largely in favor of such use. Metal ceilings are sanitary and fireproof, while their manufacture has been brought to such a state of perfection that a room ceiled with metal of an appropriate design and decorated in good taste presents a very attractive appearance.

Metal ceiling designs are now classified as Colonial, Greek, Rococo, French and Italian Renaissance, Gothic, Composite and other orders of architecture. In this way the purchaser can secure a design that will harmonize with any interior, thus obtaining steel ceiling adapted to any kind of store, public building, etc., and to any room in a private residence.

Still another feature that has had much to do with the rapid increase in the sales of the Brooklyn metal ceilings is their simplicity and the ease with which they may be erected even by an inexperienced workman, provided he follows carefully the full working plans furnished free of charge with every order. The sale and erection of Brooklyn metal ceilings now runs into the millions of square feet per annum, and the manufacturers will be pleased to send, on request, to any reader who is interested, complete literature on the subject of steel ceilings. Address Brooklyn Metal Ceiling Company, 283-287 Greene Avenue, Brooklyn, New York, U. S. A.



Attractive Brooklyn Metal Ceiling

New Copper Sash on the Market

The Detroit Show Case Company, of Detroit, Michigan, have recently placed on the market a copper sash that is to be used all the way round the plate glass in store fronts and other windows. The moulding is fitted with ventilation to prevent the glass from either frosting or sweating.

Shopkeepers, generally, are demanding that their windows be installed so as to overcome the unsightly frosting and sweating so frequently coating many times with damaging effect, the large, display plate glass windows during the winter months. As this company are large manufacturers of show cases and metal



New Copper Sash Moulding to Prevent Frosting Over

store front bars, they thoroughly understand the necessary features of construction that must be embodied in a sash that will accomplish this.

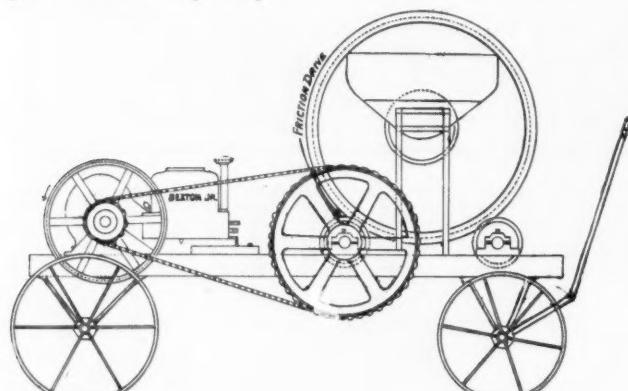
Particulars concerning their new copper sash, also the other lines of their manufacturing can be obtained by any AMERICAN CARPENTER AND BUILDER reader simply writing the home office of the Detroit Show Case Works, 491 Fort Street, West, Detroit, Mich.

Geo. L. Sexton Designs New Type Mixer

One of the best known men in concrete mixing machinery circles, Mr. Geo. L. Sexton of Milwaukee, has just perfected a batch mixer of entirely new pattern, which he calls the Sexton Junior.

In this machine the mixing gear is placed directly above the engine driven pulley, and is connected with it in the most direct manner—thus preventing any loss in power through lost motion. The line drawing shows fairly well the arrangement of this machine. As it is the fruit of 15 years' successful experience with concrete mixers, both small and large, we may be certain that this Sexton Junior will find its place with progressive contractors and builders, and "make good."

This little machine is of great enough capacity to meet the needs of the vast majority of our readers. It is very substantially constructed; it is a machine of ample power to run to capacity every hour of every day in the week. The Sexton Junior is guaranteed to turn out from 35 to 50 cubic yards of concrete per day.



Drawing Showing Arrangement of New Sexton Mixer

Sexton Junior is operated with a friction drive, thus assuring the utmost economy in operation. Its construction is such that it simply cannot get out of order. The readers of the AMERICAN CARPENTER AND BUILDER really should know more about this mixer, inasmuch as it seems peculiarly adapted to their needs. It will pay to write Sexton, 404 Watkins Building, Milwaukee, Wis., for full particulars.



Motor Trucks Save Big Contract

The saving of a small fortune through the use of motor trucks has been accomplished in the construction of the Big Meadows Dam, which is being built on the Feather River in the Sierra Nevada Mountains.

The Big Meadows Dam is said to be the largest on the western hemisphere and in its construction, unusual obstacles had to be overcome. Not least among these was the necessity of hauling cement and other materials from Keddy, which is 25 miles away. The road to Keddy is described as about the roughest and most hazardous imaginable.

Late in the summer the contractors made up their minds that heroic measures were necessary to put the work in a safe condition to withstand the winter weather, which arrives early in the northern Sierras. To accomplish this was not so much a question of men as of materials.

The consequence was the engagement of a fleet of five Kissel Kar Trucks owned by the Mercantile Motor Truck Co., of San Jose, Calif. These trucks were immediately put in commission and for about forty days were driven twenty-four hours steadily between Keddy and Big Meadows, carrying five ton loads each way. Two men took their turn at the wheel of each truck. The roads were so bad that new tires had to be put on every 1000 miles, but the Kissel Kars themselves stood the steady and strenuous strain with wonderful resistance. Snow storms were encountered when the fleet turned homeward and logging chains had to be used to make the difficult grades, but the trucks got through safely.



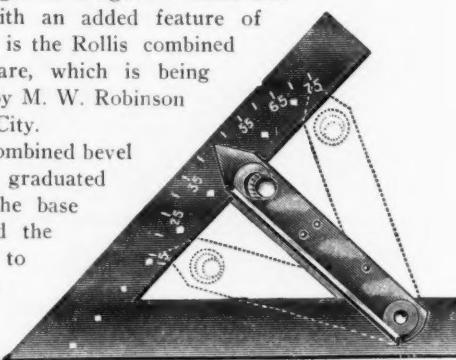
Fleet of Five Kissel Kar Trucks Which Saved Contractors Thousands of Dollars by Running Continuously Night and Day in Drawing Building Material for the Big Meadows Dam in California

Rollis Combined Bevel and Square

A new and interesting tool which contains all the advantages of a figure 4 mitre and square, and with an added feature of having a bevel, is the Rollis combined bevel and square, which is being manufactured by M. W. Robinson of New York City.

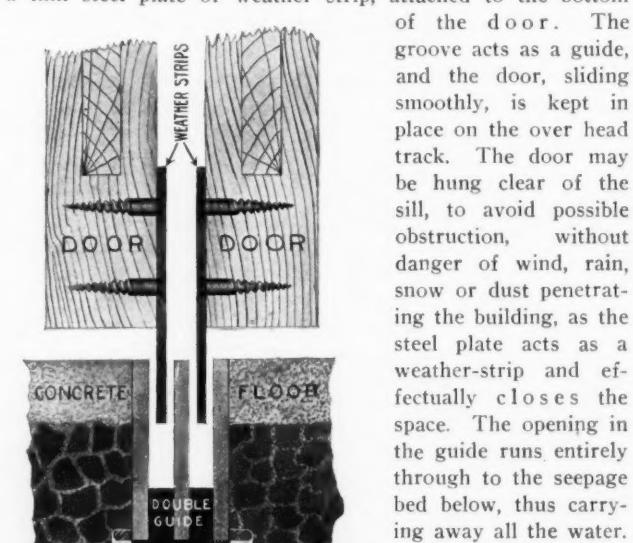
This Rollis combined bevel and square is graduated on one side, the base is movable and the tool can be set to any angle. On the reverse side is a scale.

Full particulars and circulars describing this tool can be had by addressing M. W. Robinson, 88 White Street, New York City.



Sliding-Door Guide and Weather Strip

Here is something new; a steel groove or door guide embedded in the floor flush with the surface, in which slides a thin steel plate or weather strip, attached to the bottom of the door. The groove acts as a guide, and the door, sliding smoothly, is kept in place on the overhead track. The door may be hung clear of the sill, to avoid possible obstruction, without danger of wind, rain, snow or dust penetrating the building, as the steel plate acts as a weather-strip and effectually closes the space. The opening in the guide runs entirely through to the seepage bed below, thus carrying away all the water.



Cross Section of Double Guide

This device is invaluable in garages, barns, stables, factories, freight stations, and wherever outside sliding doors are used. It is adapted to any size

door, and in connection with flooring of concrete, asphalt, brick or wood, it is claimed to be the only successful one.

This device is furnished by the Schouler Cement Construction Co., 144 Frelinghusen Ave., Newark, N. J., and is fully protected by patents. They will gladly send additional particulars on request.

BIG NEW BUILDERS' CATALOG—FREE

5, BARGAINS

**Order All Millwork Staples and Specialties
Direct From Gordon-Van Tine Co. Save 50%**

The great new Building Material Catalog we have just issued fairly bulges with bargains for carpenters and contractors.

Over 5,000 money-saving offers on staple items in Millwork and specially designed styles, meeting every possible requirement of the builder.

Over 152 solid pages, each packed with high grade materials at prices that defy competition.

We guarantee highest quality, prompt shipment, safe delivery and satisfaction or agree to refund every dollar and pay the freight both ways. Write for your catalog today and save 50 per cent.

Where Can You Beat These Prices On Staple Items of Building Material?

White Pine Doors—2 ft. 8 in. by 6 ft. 8 in.—1 $\frac{3}{8}$ —4 panel—Strictly "A" Quality, each \$1.79.
Yellow Pine Doors—2 ft. 8 in. by 6 ft. 8 in.—1 $\frac{3}{8}$ —5 panel—Strictly "A" Quality, each \$1.95.
Windows—4 lts.—1 $\frac{3}{8}$ —glazed 10x22—SS—each, 72c.
Windows—2 lts.—1 $\frac{3}{8}$ —glazed 16x22—SS—each, 63c.
Storm Sash—2 lts.—1 $\frac{3}{8}$ —glazed 16x22—SS—each, 65c.

Storm Doors, Glazed and Painted—2—8 $\frac{3}{4}$ x6—9—1 $\frac{1}{8}$, each \$1.71.
Yellow Pine Base Moulding—Size 1 $\frac{3}{16}$ x2 $\frac{1}{4}$ in., per 100 lineal feet, 83c.
Lattice—Per 100 lineal feet, 30c.
Yellow Pine Cove Moulding—Per 100 lineal feet, 30c.
Outside Window Frames—Complete, for 10x20—2 lt., each \$1.18.

Why Pay The Planing Mills To Make What WE Carry as Regular Stock?

We offer at a mere fraction of usual "made-to-order" prices an immense variety of new style, specially designed Doors and Windows, Casement, Sash, Stair and Porch Material, China Buffets, Mantels, Grilles, Consoles, Colonnades, French Windows, Doors, etc., etc.

Why not use our immense facilities, get all your "Special" material at regular "stock" prices, save money and prevent exasperating delays?

Get the Big Catalog! Put Our Prices, Quality and Service to the Test!

More than 100,000 splendid homes have been built from our Millwork and Building Material. Every item in all these buildings was ordered direct from the Catalog. Hundreds of the most prosperous and progressive Carpenters and Contractors in the United States buy exclusively from us.

The saving to our customers is over a million dollars a year.

Let our catalog help swell your bank account. Write for it NOW.

GORDON-VAN TINE COMPANY 637 FEDERAL STREET
DAVENPORT, IOWA

Learn Architectural \$175 a Month for YOU



tical architectural draftsman. I offer to teach you in a short time at little expense right in your own home.

I Will Give You Personal Instruction

For over twenty years I have been doing the highest paid expert drafting work. I am chief draftsman of a large and well-known company. Long ago I saw the demand for practical trained draftsmen. I organized my practical methods for ambitious men whom I train personally.

And I will give you the same personal instructions

that I have always given my students. I watch every piece of work that you do and tell you just what is the matter with it. If it is right, I tell you so; if it is wrong, I show you where the mistake is. You get the training with practical work—work just like large firms are paying \$175 a month for. Send the free coupon for my big book and full particulars of this offer.

More Men Needed

Never before in the history of architectural drafting has the demand for trained men been so urgent. Thousands of positions are open. The large concerns are actually crying for men to do the work. No wonder they are paying huge sums for the services of trained architectural draftsmen. And you get the training that will bring you \$175 a month right in your own home

during your spare time. I know just exactly what they demand, because I have done work for them for over twenty years. And I will give you just the training—just the knowledge—just the skill that you need in order to get one of these positions. Write today—get full particulars of this offer now.

Positions Guaranteed

Every week I receive dozens—yes, scores—of requests for trained men. In fact, I publish every week a list of the positions that I know are open. If you write at once I will send you this list and show you just exactly

the opportunities that I know to be at hand. And there are thousands of others besides those I hear of. Positions that are paying from \$125 to \$175 a month.

Send the Free Coupon on Opposite Page

Do not delay an instant. How would you like to be drawing \$175 a month six months from now? I have given others a chance and I will give it to you. Absolutely no obligations of any kind in filling out the free

coupon. Just your name and address is enough, but I will send you my big free book and full particulars of the offer. Write today.

Chief Draftsman, Dept. 2661

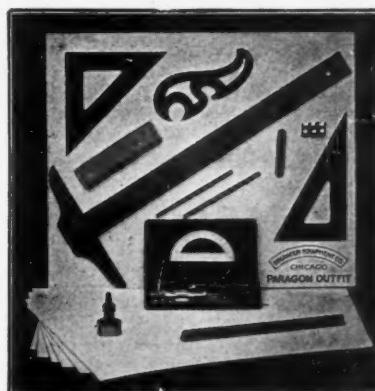
ENGINEERS EQUIPMENT CO., Chicago, Ill.

Drafting at Home Others have done it—so can You

I have trained hundreds of men so that they were made expert architectural draftsmen and were able to accept positions paying from \$125 to \$175 a month at the start. Some of my students are making as high as \$5,000 a year. You can do the same. I will guarantee to coach you just as long as you need the instructions, until you are able to accept one of these positions. No "whys" and wherefores" about this proposition. I guarantee absolutely to give you my personal instructions until you are able to accept one of these positions.

I will give You this Outfit **F R E E**

Here is the \$15 outfit that I will give you absolutely free. I want every one of my students to have practical working instruments. You can't do practical work with toy instruments, so I have selected these instruments from the stock of one of the largest manufacturers in the country. I will give you this outfit absolutely free. You cannot duplicate it for less than \$15. I will give it to you absolutely free. As chief draftsman of a big firm I know exactly the quality and quantity of practical training, knowledge and actual up-to-date experience you must have in order to obtain a good position and advance to the highest salary. I also know the kind of instruments that you need.



Send Me the FREE Coupon For full particulars and free book

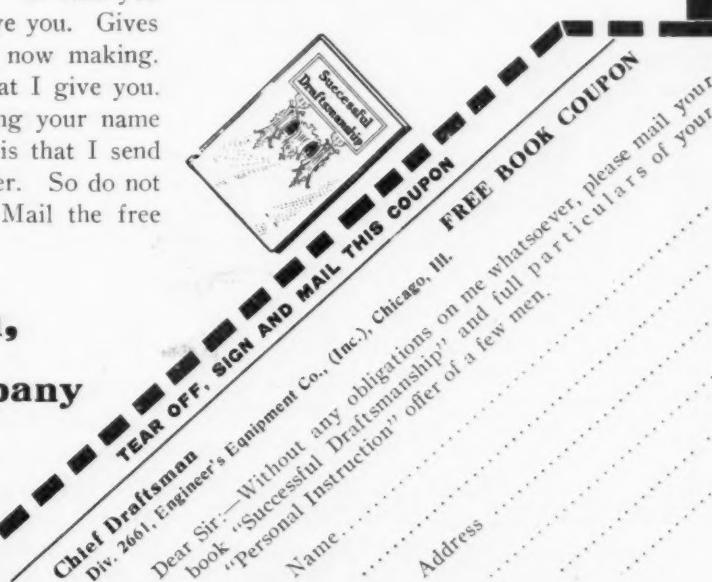
Do not delay an instant. Here is your opportunity to get a position paying from \$125 to \$175 a month. Just think of it—six months from now you can be on the pay roll drawing your \$175 a month. How does that sound? The first step is to put your name and address on the free coupon and get my free book, "Successful Draftsmanship." It tells you all about the personal instructions that I will give you. Gives you full particulars of the special offer I am now making. I will also send you a copy of the guarantee that I give you. Absolutely no obligations of any kind in putting your name and address in the free coupon. All it means is that I send you the free book and full particulars of the offer. So do not delay an instant. Here is your opportunity. Mail the free coupon in to me today.

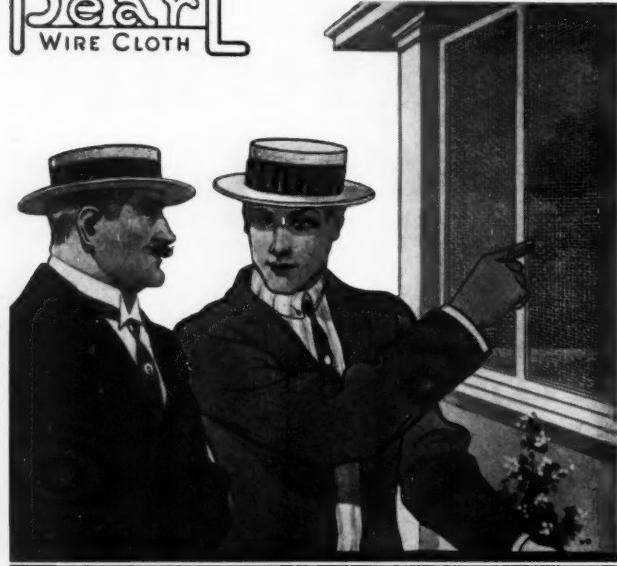
**Chief Draftsman,
Engineers Equipment Company**

Dept. 2661

CHICAGO :: ILLINOIS

When Writing Advertisers Please Mention the American Carpenter and Builder.





Here is the Modern Screen for Progressive Builders---

The high metallic finish of Gilbert & Bennett PEARL Wire Cloth makes it *easily* the handsomest screen material on the market today.

It is of high tensile strength and practically *rust-proof*, consequently almost *wear-proof*.

Now, don't confuse Gilbert & Bennett PEARL Wire Cloth with *galvanized* kinds. They are *not* the same—or anywhere near it. You'll readily recognize the difference by comparing *wear*.



For Screening Doors, Windows and Porches—

Gilbert & Bennett PEARL Wire Cloth has *proven* its worth. It is no experiment. Many years of constant use all over America bear out our statements about it.

Two weights are to be had in "PEARL"—Regular, which is used for doors and windows and Extra Heavy Grade which is especially suited for porches and doors.

All genuine Gilbert & Bennett PEARL Wire Cloth has *two copper wires* in the selvage.

We want you to know about "PEARL."

Ask the best dealer in your town or write our Chicago office for samples and complete information.



*Write for These Samples
and Particulars —
Address our Chicago Office.*

The Gilbert & Bennett Mfg. Co.

Established 1818

Chicago Georgetown, Conn. New York City Kansas City

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Profession of the Building Contractor and His Stock in Trade

By O. S. Duff
Advertising Manager, Triple "A" Machine Co.

Lincoln ascribed his success to his ability to analyze a situation from all possible angles.

Now then, Mr. Contractor, suppose you analize *your* situation?

What is your stock in trade?

Why do people give preference to some contractors over lower bidders?

Why are some contractors making so much more money than others?

Reputation! That's the whole thing in a nutshell.

What, then, is the best way to establish a *reputation*?

A contractor, to build up and maintain a valuable business reputation must be prepared to do good work and to complete jobs promptly. Make that your hobby and you'll be surprised at the way your business will grow. The many satisfied customers such a policy is bound to make, will take personal pride in recommending your work to their friends, and that's the best advertisement a contractor can get.

In these days of push and progress one must "deliver the goods." The people of today want speed together with quality and it's up to the building contractor who would succeed to take advantage of every labor saving device known that can be used without sacrificing quality of work. Today up-to-the-minute contractors may be seen using special tools and machinery for almost every conceivable kind of work that enters into a building. Together with the march of progress has grown a general demand for style and finish even in the average residence. Take for instance the subject of floors. A few years ago only the millionairs could think of enjoying the luxury of well polished hardwood floors, whereas now they are in general demand. Modern machinery for milling and surfacing this branch of material has placed these advantages within the reach of the average home builder.

In the scraping and sandpapering is where modern machinery is an important item. There are now machines on the market with which one man can easily scrape and sandpaper as much floor surface in one day as can be done in a whole week by the old method, and, besides the quality of the machine work is much better as the cut is wider and more uniform. The advantage of such a machine to the building contractor is obvious. It not only saves him a great deal of money on his labor but enables him to better satisfy his customers and to complete his jobs much quicker.

Take for example a seven or eight room house. The cost of scraping and sandpapering the floors is ordinarily about \$30.00, but with an up-to-date floor surfacing machine one man can do this work in less than two days or at a cost of about \$5.00. Consider the saving in labor and time. The saving in labor quickly pays for the machine and the saving in time enables you to complete the building so much sooner. The time gained in completing a job is by far the most important as it is that by which a contractor's ability is measured—quality of the work being as it should.

A reputation for rapid delivery is an asset that will tip the scales in your favor on many closely figured jobs. Means for rapid delivery will often save penalties on important work, where time for completion is limited, and will enable the contractor to handle more jobs each year.

As a contractor's business and reputation grows so, also, the profits grow—like money at compound interest. Instead of struggling along at a profit of five or ten per cent on the small amount of work one is able to handle by the old slow methods, you will soon be able to double and treble your business and your per cent of profit as well.

With a *reputation* for rapid, high-class work you will

CAST IRON COLUMNS

IN ALL LENGTHS UP TO 12 FEET
CARRIED IN STOCK

CHEAPER
THAN WOOD,
STRENGTH
AND
DURABILITY
CONSIDERED



A-3
Special Cap

FIRE AND
WEATHER
PROOF
PRACTICALLY
INDES-
TRUCTIBLE

Immediate shipment will be made on orders for cast iron columns from our stock as follows:

Net Prices F. O. B. Foundry, Coshocton, Ohio

	A-3 Plain Cap and Base	A-4 Moulded Cap and Base
5 inch columns 12 feet long,	each \$ 6.40	\$ 7.10
7 " " 12 " " "	9.60	10.60
9 " " 12 " " "	13.00	14.50

The above prices are given on a column 12 feet long over all including cap and base. For columns of different lengths deduct per foot

5 inch columns	\$.25
7 " "35
9 " "50

A-5 Special Cap, each, 5-inch \$1.75, 7-inch \$2.50, 9-inch \$3.25

Prices on larger size columns on application.



A-4
Moulded
Cap and Base

Safe Load in Pounds for Cast Iron Columns

Made Up from Base and Top Castings	5-inch Column		7-inch Column		9-inch Column	
	Cap and Base 10 in. Square		Cap and Base 12 in. Square		Cap and Base 14 in. Square	
	Length	Approximate Weight	Capacity	Approximate Weight	Capacity	Approximate Weight
6 Feet	135 Pounds	38,400	222 Pounds	71,800	288 Pounds	90,500
6 Feet 6 inches	145 "	37,000	239 "	69,800	310 "	90,500
7 Feet	155 "	35,600	256 "	69,200	332 "	90,500
7 Feet 6 inches.	165 "	34,200	273 "	67,600	354 "	90,500
8 Feet	175 "	32,900	290 "	65,500	376 "	90,500
8 Feet 6 inches.	185 "	31,500	307 "	64,500	398 "	90,500
9 Feet	195 "	30,300	324 "	62,900	420 "	90,500
9 Feet 6 inches.	205 "	29,000	341 "	61,300	444 "	89,100
10 Feet	215 "	27,800	358 "	59,700	466 "	87,400
10 Feet 6 inches.	225 "	26,600	375 "	58,100	488 "	85,700
11 Feet	235 "	25,500	392 "	56,500	510 "	84,200
11 Feet 6 inches.	245 "	24,400	409 "	54,900	532 "	82,500
12 Feet	255 "	23,300	426 "	53,400	554 "	81,000

JAMES B. CLOW & SONS
HARRISON STREET BRIDGE, CHICAGO

FOUNDRIES: COSHOCTON, OHIO.

NEW COMERSTOWN, OHIO.

SAVE THIS PAGE FOR FUTURE REFERENCE.

OTHER CAST IRON SPECIALS WILL FOLLOW

practically be in a position to name your own figure *and get it.*

Resolve to be the leading contractor in your locality and to maintain your lead. Steal a march on your competitors. The Progressive Route is the only way.

Editor's Note: These are words of wise common sense and good advice. We subscribe to them heartily. Mr. Duff knows what he is talking about when he speaks of floor scraping and sanding. Under the guidance of Mr. Anderson, the well known floor surfacing machinery man, he has made this his special study. Our readers are invited to write him, care of the Triple "A" Machine Co., 32 N. Clark St., Chicago, concerning their floor surfacing problems. Also ask for particulars of the "Spring-Driven Triple 'A' Floor Smoother."

Doing Much Bank Work

A special feature of the Cincinnati Manufacturing Company's ornamental iron and bronze work includes a considerable amount of metal work for banks. During 1911 this company completed 267 bank jobs and at the present time they are completing work for the following:

The Bank of Commerce, Little Rock, Ark.; City National Bank, Dayton, Ohio; Cotton Belt Savings & Trust Bank, Pine Bluff, Ark.; the Commercial Bank, Delphos, Ohio; Heard National Bank, Jacksonville, Fla.; H. L. Timmons & Co. Bank, Bement, Ill.; Bank of Sumter, Sumter, S. C.; Iowa State Savings Bank, Burlington, Ia.; Commonwealth National Bank, Dallas, Tex.; Niles Center State Bank, Niles Center, Ill.; Farmers' State Bank, Conway, Ark.

The Cincinnati company are prepared to handle any of the following lines of work—metal grilles, wickets, cornices, metal doors, safety deposit railings, bronze signs, tubular railings, cashier cages, money guards, check desks, etc., etc.

Their catalogs and other information can be had by writing them—The Cincinnati Manufacturing Company, Cincinnati, Ohio.

Coltrin Concrete Mixers

The Knickerbocker Company of Jackson, Michigan, have recently issued their 1913 catalog on the Coltrin concrete mixer which they manufacture. This catalog presents a pleasing combination of text matter and illustrations—done in a thorough manner.

The 10 models of the Coltrin are described in detail and records and testimonials of their performances given. The fundamental of Coltrin construction is based upon a combination of what is best in both the batch and continuous mixing types. Coltrin mixers are built in types for steam, electricity, gasoline engine, stationary and hand power operation.

The Knickerbocker Company claim especially for the Coltrin that it will at all times deliver a perfectly uniform mixture under average working conditions. That it will give as strong a mix obtainable with a saving of at least 20 per cent in cement and at the least cost per cubic yard.

Specifications for Coltrin No. 1 are: capacity per hour, 16 cubic yards; feeder, three hopper automatic; power, 4 H. P. engine, 6 H. P. boiler; dimensions, length 12 feet, width 62 inches; diameter of wheels, front 22 inches, rear 24 inches; weight, 4000 lbs.

New Manager for H. W. Johns-Manville Co.'s. Atlanta Office

The H. W. Johns-Manville Co. announce the appointment of Mr. C. S. Berry as manager of their Atlanta, Ga., office, located at 31½ So. Broad Street. To facilitate delivery in the South a stock of roofings, packings, pipe coverings and other J-M asbestos, magnesia and electrical products is carried at this above address. This office also employs a force of workmen experienced in the application of J-M products.

FIRE PROOF WALL BOARD

(Not Made of Wood Pulp or Paper)

The Modern, Winter Building Material

- ¶ The use of Bestwall makes an improved construction over lath and plaster.
- ¶ Nail it directly to the studding. It will make a strong, rigid wall.
- ¶ Bestwall is a mineral composition. It will not warp, expand or contract.
- ¶ You can, therefore, apply wall paper directly on the surface without panel strips over the joints.
- ¶ Make your first floor warm and free from draft by ceiling the basement with Bestwall.
- ¶ Reduce your fuel bills. Protect your cold, barren attic against the weather by converting it into comfortable rooms.
- ¶ Bestwall can be applied without litter of dirt and without inconvenience.
- ¶ Send for descriptive booklet giving full information regarding uses, application and sizes of Bestwall.

Trade Prices to Contractors

BESTWALL MANUFACTURING COMPANY

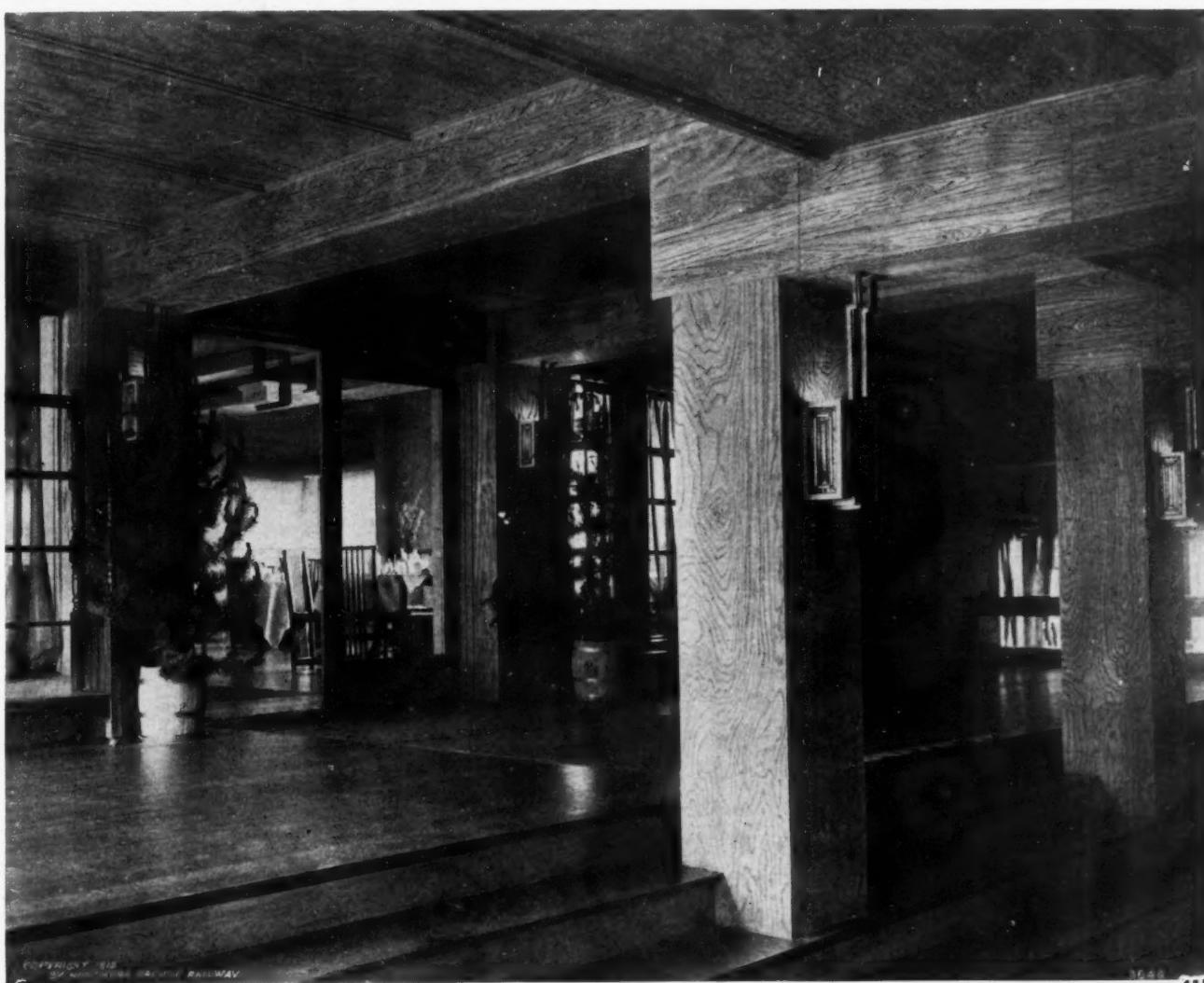
1247 First National Bank Building, CHICAGO

Warehouses: Cleveland, O.; St. Louis, Mo.; Kansas City, Mo.; Lincoln, Neb.; Louisville, Ky.

When Writing Advertisers Please Mention the American Carpenter and Builder.



BIRCH FINISH



Entrance to Dining Room, Grand Canyon Hotel,—(Robert C. Reamer,
Architect)—Yellowstone National Park.



BIRCH pillars, walls, ceilings, casements, and doors are used in the new Grand Canyon Hotel in Yellowstone Park because the Northern Pacific Railway Company wanted only the most harmonious, beautiful and durable finish to meet the critical eyes of thousands of visitors familiar with the finest structures the world has to offer.

BIRCH finish is just as appropriate and desirable for the modest home as for the most luxurious hotel or magnificent apartment building. Here is what John D. Heckert of Canyon City, Colo., says:

"I received your book entitled BIRCH and think it fine. I notice on page eleven a picture of a white brick residence for which I drew the plans and executed the work. I have had more compliments on that job than on any I have turned out in a long time, and think it is all because of the use of Birch. I always talk Birch because it is a credit to me and helps me get other work. I have just finished a job for myself and used Birch three-panel doors. I am also finishing up a job for a customer and using one-panel Birch doors."

The BIRCH BOOK which Mr. Heckert speaks of and a sample of BIRCH in stained and natural colors will be SENT POSTPAID to any reader of this magazine. Address—

The Northern Hemlock & Hardwood Mfrs. Ass'n.

Dep't. C

WAUSAU, WISCONSIN



Guaranteed Tools for Carpenters

P. S. & W. Carpenters' Tools have nearly a century of manufacturing ability, experience and progress back of them.

They include the largest and best lines of braces, auger bits, steel squares, chisels, gouges, drawing-knives, pliers, etc., etc.

These and other P. S. & W. Lines have become the largest in their respective fields, because of the confidence of hundreds of thousands of mechanics in the guarantee of excellence that goes with

"The MARK of the MAKER"

Send for valuable free book, the "Mechanics' Handy List" Describes over 200 tools; 35 pages of handy reference tables.

The Peck, Stow & Wilcox Co.

Mfrs. of the Largest Line of Mechanics' Hand-Tools Offered by Any Maker

Southington, Conn. New York, N. Y. Cleveland, Ohio
Address correspondence, 22 Murray St., New York City

Ice Cracking Machines for Home Use

The Miller Manufacturing Company of Minneapolis, Minn., are manufacturing in their ice cracking machine a device that can be practically used in residences, apartments and flats, and the larger sizes of the cabinets are useful for clubs, hospitals and the better classes of buffets, confectioneries and drug stores.

As applied to the kitchen equipment of homes, the Miller cabinet represents a solution of the ice preparing problem. This cabinet enables the servant or housewife to prepare ice instantly and of any desired quantity for any desired purpose from iced vegetables to freezing ices and ice cream. It does this absolutely without muss or waste. The ice is prepared in any size desired and the product is in larger or smaller solids instead of "chips" and "shavings," and consequently serves the purpose for which it is intended much better, and is much more lasting.

Contractors and builders will doubtless find that there is a considerable demand among home owners for an article of this nature and, as the Miller cabinet is easily and comparatively inexpensive to install, it can prove a very attractive proposition.

Circulars and other particulars will be mailed upon request. Address the Miller Manufacturing Company, Plymouth Building, Minneapolis, Minn.



When Building Leave a Place for This Outfit

Hobart Joins Hanna-Breckenridge Co.

James F. Hobart, a contributor to this journal, and recently an inventor and designer in the Research Department of the Diamond Match Company, Barberton, Ohio, resigned his position on December 5th, to become superintendent of the Hanna-Breckenridge Company, Fort Wayne, Ind., Mr. Hobart assumed his new position on December 9th and will be busily engaged in systematizing and introducing improved methods in the largest machine shop in the world devoted to the rebuilding of wood working machinery and the manufacture of hollow blast grate bars.

H. S. McClelland with Canton Company

The Canton Art Metal Company of Canton, Ohio, have recently added to their selling force Mr. H. S. McClelland of Kansas City. Mr. McClelland's headquarters will, in the future, be at Evansville, Ind., as his territory covers southern Indiana and Kentucky.

The Canton line of "XL" skylights, cornices, ventilators and special sheet metal work is so well and favorably known that doubtless Canton salesmen or dealers very seldom have to go thoroughly into particulars in closing a sale.

Canton goods are extensively used among AMERICAN CARPENTER AND BUILDER readers and the Canton Art Metal Company are always glad to furnish their catalogs and other particulars when requests are made to them. Address them at Canton, Ohio.

ORBIN

IREM TEMPLE. A. A. O. N. M. S., WILKES-BARRE, PA.
OLDS & PUCKEY, ARCHITECTS

Is equipped throughout with Corbin Hardware of
the Granada Design as illustrated

P. & F. CORBIN
Division

THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

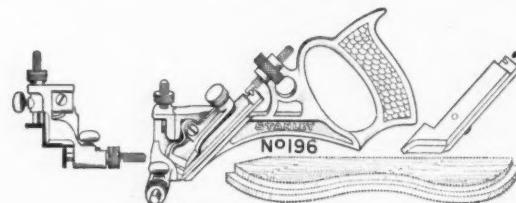
P. & F. Corbin of Chicago P. & F. Corbin of New York P. & F. Corbin, Div., Phila

When Writing Advertisers Please Mention the American Carpenter and Builder.

The Stanley Curve Rabbet Plane

A tool that should be of great interest to all workers in wood is the Stanley Curve Rabbet plane, because its ability to cut rabbets of practically any form renders it almost universal in its adaptability for this class of work.

This tool, which is manufactured by the Stanley Rule and Level Company of New Britain, Conn., will cut rabbets on circular or other curved and irregular edges. It works



This Plane Will Work Curves

equally well whether the rabbet is to be cut on the outside edges of the work or on the edges of openings cut out of the surface of the work. It is provided with two cutters fastened together by a screw in such relation one to the other as the work in hand requires. The upper cutter acts as a spur for the lower and also cuts the side of the rabbet. The lower cutter is a skew cutter which follows the spur and cleanly cuts the bottom of the rabbet. The stock and handle are cast in one piece. The plane is fitted with an adjustable depth gauge. The fence is also adjustable and has a curved face. The plane is 9 inches in length, weighs 3 lbs. and is nickel plated.

A circular describing the plane may be had by any AMERICAN CARPENTER AND BUILDER reader addressing the company direct—the Stanley Rule and Level Company, New Britain, Conn.

Universal P. C. Men Promoted

John G. Berquist, Works Manager, of the Universal Portland Cement Co., has resigned that position. A connection with the Company will be maintained by Mr. Berquist who will hereafter act in the capacity of Consulting Engineer.

Leonard Wesson, Superintendent, Plant No. 2, South Chicago, Ill., has been transferred to the general office of the Company to assist President Edward M. Hager in matters relating to appropriations, construction and operation. Mr. Wesson will have the title of Assistant to President.

Nels Nelson, who has been Assistant Superintendent of plant No. 2, has been promoted to the position of Superintendent of that Plant.



Enlarged Dow Plant

It is interesting to note that in the trend of these general good times a good measure of prosperity has come to all those connected with the building and construction fields. A recent letter from the Dow Wire and Iron Works, located at Louisville, Ky., informs that developments with them include an addition to their foundry. This is the best evidence in the world that business, with them, has been good, and as their principal line of work covers ornamental and structural artistic steel and bronze work for banks, office buildings, residences, enclosures, etc., also iron and wire fencing, wire cloth, etc., it doesn't require a Sherlock Holmes to deduce that the builders of this country have been kept on the rush this past season.

All interested in the Dow line of work or who are figuring on just such work can get full particulars, catalogs, etc., concerning their lines by writing the Dow Wire and Iron Works, Louisville, Ky.

AGENTS MAKE \$45 TO \$80 A WEEK

I want good agents in every county in the United States, Canada and Mexico. I want men and women, who want to get out and work and make a lot of money. **I offer you an opportunity to earn thousands of dollars a year.** I offer you a position where you will be independent—you will have an abundant income—your time will be all your own—you will be bossed by no one, and can work just as hard as you want to and when you want to—and every penny of profit will come into your own pocket. I offer you an agency for

**The
Robinson Fold-
ing Bath Tub**



A GREAT NEW HOUSEHOLD INVENTION

Just out—nothing else like it. Gives to every home a complete bathroom in any part of the house—without expense. Can be used anywhere—upstairs, downstairs, in the guest room—anywhere—and always ready—in demand everywhere. **Made full size, of specially prepared, exceedingly high quality rubber—folds instantly and without effort—takes up no room—requires no plumbing or fixtures—ideal for absolutely every home in the world.** No repairs—no expense—no bother—no objections. Perfect, economical, necessary everywhere. Thousands being sold. Agents

taking orders at nearly every house. **Will Gunckel, of Ohio, got \$240 worth of orders the first week.** A. Bernider, of

Kansas, made \$30 in four hours. Made eight calls, sold six tubs. **Weil, of Mo., made \$10 in one hour.** Hamilton, of Wyo., made \$60

first two days. Had to express big order, as everyone wanted to use the tub at once.

New territory being assigned every day. Send your application at once. This is the biggest money maker invented in 50 years for hustlers everywhere. It is exciting widespread attention and thousands of letters are received

Thousands of dollars paid to agents already in the field. Once. This is the biggest money maker invented in 50 years for hustlers everywhere. It is exciting widespread attention and thousands of letters are received from homes asking us to have one of our agents call so they can place an order. **EXCLUSIVE TERRITORY** Means a big, immediate and permanent income. It means that you will be in business for yourself at \$45 to \$80 a week sure. Prospects for doubling that amount. General agency openings for those who can show the ability to handle them. This is the most brilliant opportunity of the century for those who act. Answer this invitation at once. Don't delay. Don't put it off. The chance is open today. **100% PROFIT** I pay you 100% profit. I give you complete instructions, assistance, co-operation. **I back you and absolutely insure your success.** I shall judge you largely by your promptness. I want good men. So put your name, address and the name of your county on a postal card and mail it to me immediately. I will send complete information, free—and I will offer you free this chance to make a big salary the very first week. I am organizing my selling force now, and territory is being rapidly snatched up. Only one agent allowed to a field—so send your application at once. Mail your postal card or a letter today—do it right now. Address

H. S. Robinson, President

THE ROBINSON BATH TUB CO.

206 S. 15th St., Toledo, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.



Two-Door Value For One Door's Price

\$5.25

Here is a really practical combination of storm and screen door, that will hit the bull's eye of any house-buyer (or renter, for that matter.)

Both the glazed section, and the screen section, are fully two-thirds of the height and surface-area of the door. Not merely a makeshift panel—but a *real* screen door, or a big, showy sash.

Either section can be handily removed, and the other put in place, in two minutes' time, without tools! Women, especially, will warmly approve the

STANDARD Combination Storm and Screen Door

Neither section, when in place, will rattle in the hardest wind. Nor can dust nor drafts get through the edges of the sections. Literally, the STANDARD provides two beautiful, solid, admirable doors for a fraction more than the cost of only one cheap door—and think of the talking points it gives an agent or an owner!

Every STANDARD Combination Door is made of clear, kiln-dried lumber, free from shakes and faults. All the stiles are true-mortised and tenoned; so are the rails; and the tenons are generously cut and fitted tight as a wedge! Stiles are five inches wide—so STANDARD doors are extra strong and wholly proof against sagging.

Each STANDARD door is $1\frac{1}{2}$ inches thick, and has a full-depth screen of either pearl or galvanized heavy, close-meshed wire of top quality. Glazing is clear AAA glass of selected quality.

In a word, the whole STANDARD job is more like a crackerjack piece of cabinet work than the ordinary factory stuff you usually buy. Yet a STANDARD Combination, including both the big glazed two-panel sash section and the full-depth screen, only costs \$5.25!

If you had one on each of the outer door-frames in your own home, you wouldn't be bothered again with separate storm and screen doors—not if you could get them for nothing. **The people you build houses for will appreciate the STANDARD just as much as you would.**

Let us send you a showing of STANDARD models. Learn the economy and the practical merit of the only Combination Door worth knowing. Write to

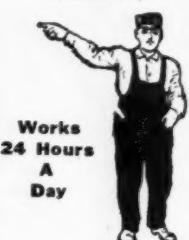
The Combination Door Company

105 Ruggles Street
Fond du Lac,
Wis.

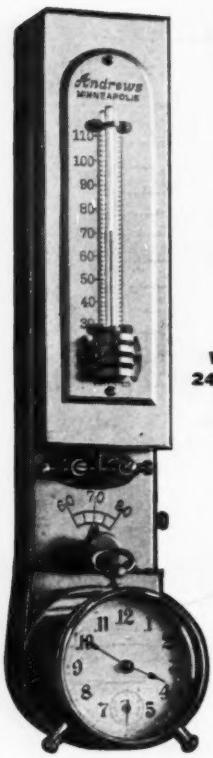
TWO MONEY-MAKING

Sell To Your Old Customers— And New Ones, Too.

Every home operating a basement heating plant and having no heat regulator is a good prospect for an Andrews Hired-Man Thermostat. No heating plant, however efficient, is complete without one of these time, labor and fuel savers. People know them all over the country as they have been advertised in the best national magazines. They are fine sellers and the thousands which have been sold on approval are sticking right at their jobs and their owners wouldn't part with them.



Works
24 Hours
A Day



Thermostatic Thermometer For The Living Room

During these cold days when there isn't much doing in the shop, why not go out and sell your old customers some of these thermostats and make some money for yourself? The retail price is low enough to attract anybody who wants to get rid of the nuisance of running up and down cellar fussing with the dampers and save coal besides.

Andrews Hired-Man Thermostat

The Lowest Priced High Grade Heat Regulator Made

The extreme simplicity of this Thermostat enables it to be sold at a price below other machines. The materials and workmanship are of the very best and it is guaranteed just as fully as the highest priced machines. You may rest assured that your customers will be mighty well satisfied.

ANDREWS WEIGHT MOTOR



Can be installed
in old houses
without defacing
walls.

Guaranteed For Life

You Take No Risk

The Thermostatic Thermometer is of brushed brass and is so accurately and delicately adjusted that it electrically operates the basement motor on a change of about $1\frac{1}{2}$ degrees above or below the desired degree in the living room. The basement motor is simple, durable and cannot get out of order. It will last indefinitely. The frame is of gray iron and the wheels of steel, very accurately fitted and adjusted. A weight is the motive power, the simplest there is, and the easiest and quickest to "wind up."

Here Is The Way It Comes Packed—With Full Directions For Installing In Each Case

Any handy
easily
man can
install it.



30 Days Free Trial

Thirty days use in this kind of weather will convince any one of the real value and benefit of an Andrews "Hired-Man" Thermostat. No man will get along without it and women just love Andrews Hired-Man, as it means so much to them in saving several trips a day to the basement to tend the dampers. We "back" you on the 30 day trial proposition and you will be surprised at the interest people have in thermostats and their willingness to try the "Hired-Man."

Write for Special Prices, Booklets And Full Information.

We offer you terms that make it mighty profitable for you to do a little work along the lines we suggest among your friends and others. We will also supply you with all the booklets and folders you need to distribute and you may count on us to aid you in every way to make your efforts profitable. Write us or order today.

1303 Heating Bldg.

ANDREWS

IDEAS FOR WINTER

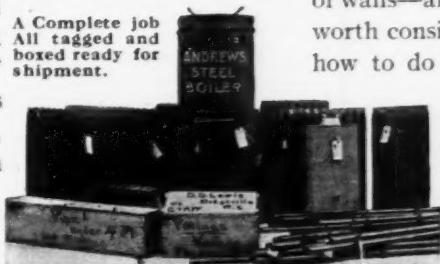
Sell The Best Hot Water Heating Plant All Cut-to-Fit, Ready to Screw Together

We offer the most unique hot water heating proposition on the market and the cleanest for a contractor to work. So far as efficiency, durability and economy of fuel is concerned it is the best system on the market today. This has been demonstrated all over the country. But the feature that makes it interesting to you is that these systems are designed for your particular jobs and are sent all cut to fit, ready to screw together. You can hire a couple of handy men to do the work of installing as our directions are so simple that it does not require an experienced steam fitter to do the work. You can make the steam fitter's labor profit on top of the profit on the job.



If You Don't Want to Sell the Jobs, Send Us Your Customers' Names and We Will Pay You a Commission on Sales. We Make and Take the Risk.

This is a proposition that should appeal to every contractor. Just send us a list of your old customers' names and their addresses, as well as any other prospects you may have, and we will take the matter up with them direct. On every sale we make on this list we will allow you the regular commission. You take no risk and do no work.



Ask Us For Free Estimates. We Do All the Figuring

If you want to handle the sale, we will furnish free estimates, free catalogs and anything you want to complete the deal. All you have to do for us is to give us the plans or rough diagrams of the buildings to be heated, showing the size, height of ceilings, windows, etc., and our engineers design a system for each job that will give the most efficiency and then give you prices on the job delivered at your railroad station.

Andrews Locomotive Steel Boiler the Best Hot Water or Steam Boiler Made Today

This boiler is made of steel plate like large power boilers. It has much more fire travel than any boiler made of its capacity, it heats up quicker and consumes much less fuel. The flues are horizontal and can be easily and thoroughly cleaned in about five minutes. No other boiler cleans so easily. It is equipped with the most modern grate and will burn any kind of coal.

Get Andrews Big Heating Book

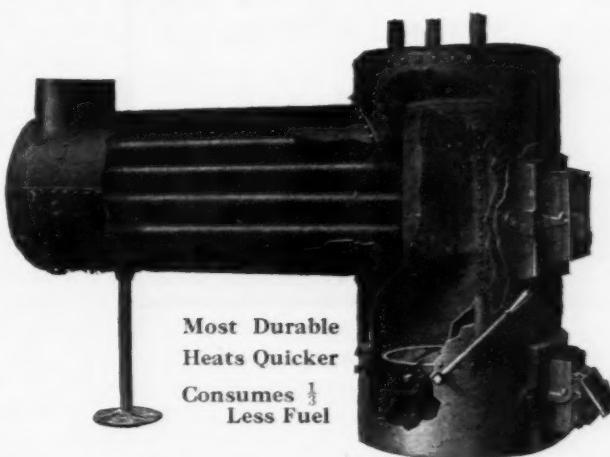
This big portfolio illustrates and describes all the features of hot water, steam and hot air heating, and is mighty valuable to every contractor as well as prospective buyer of a heating plant. Other items such as Sewage Disposal, Plumbing, Water Supply and Gasoline Gas Heating are described in it. Send for it today and get acquainted with the opportunities for making money Andrews offers you.

For Old or New Houses

In new houses there is no question of difficulty, and in old houses the Andrews system can be installed with very little inconvenience to the owners and with but a trivial defacement of walls—an item which is so small as to be not worth considering. Our lay-out plans tell you how to do it with the least labor and least "muss."

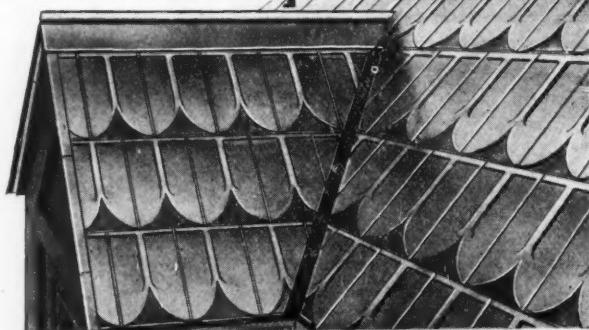
360 DAYS FREE TRIAL Guaranteed by Bond

This guaranty from an old established firm makes it easy to sell the Andrews Systems. You nor the purchaser take any risk as we stand back of every statement we make regarding the plants and "make good" on any features which may develop in the least unsatisfactory. You know we must know the merits of our systems or we couldn't afford to make such a strong guaranty.



HEATING Co. Minneapolis, Minn.

The Stormproof Roof



CORTRIGHT METAL SHINGLES

The Money Maker for Contractors
and Builders is the

CORTRIGHT Metal Shingle Roof

It's as easy to lay as the wood shingle; easier in fact, for every shingle is exactly alike in size, and every shingle locks perfectly with every other shingle.

Besides this—the wood shingle is a back number. Good in its time 'tis true, but nobody in an up-to-date community wants them now.

The modern roof must be stormproof—fireproof—lightning proof—must wear as long as the building and never need repairs.

That describes the **Cortright** roof exactly.

Do you want to become the **Cortright Contractor** for your neighborhood? Drop us a line and say so; or simply clip, sign and return this attached coupon,—we'll do the rest.

Cortright Metal Roofing Company

PHILADELPHIA and CHICAGO

- - CLIP, SIGN AND RETURN THIS COUPON - -

You may send me catalog and proposition.

Name

Street Address.....

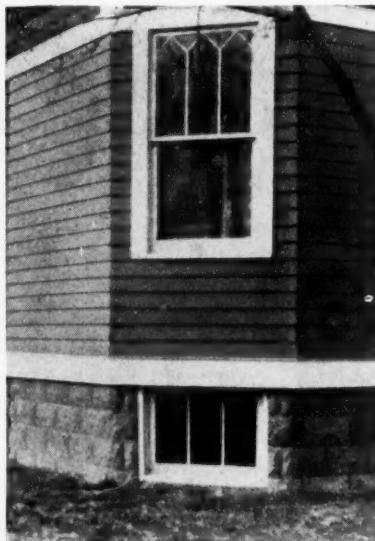
City.....

A.C. & B.I.-13

Galvanized Iron Corners

Something of a novelty in building materials is being made by Mr. H. G. Robbins, Kewanna, Indiana—galvanized iron corners for use with bevel siding to take the place of corner boards or mitered corners.

Mr. Robbins has been making these for sometime to supply the local demand in his home town. A number of the builders there are using them with good success. They find that these metal corners save more than their cost in the time required to put on the clapboards. It is not necessary to trim off the clapboards at the corner with any care at all. As these corner tins are from $1\frac{1}{2}$ inches to 2 inches wide, the clapboards do not even have to be trimmed off square. The corner tins are nailed on with one nail on each side and cover up any discrepancies in the siding.



Neat Mitered Corners at Low Cost

Corners finished with these are very neat in appearance and look like carefully mitered corners. Accompanying photograph shows two of these corners. They look pretty good, don't they?

Our readers should look into this matter. Mr. H. G. Robbins, Kewanna, Indiana, will be glad to send samples and terms on request.



Mixing Plaster and Cement Mortar

By W. A. Browning

Mech. Engr. of The Standard Scale & Supply Co.

The plaster contractors and the brick mason contractors have just begun to realize that the cost of mixing their material has become a serious problem, as well as the fact that labor is becoming more scarce every year. Within the past year there have been steps taken to eliminate this existing condition. Recently the Bemner Hotel in Houston, Texas, a million dollar hostelry, has been erected. When the contractor for the plastering started the work on this building he began to mix the plaster by hand. Labor was very scarce and high so he thought he would test out a mixer. He bought a Standard low charging mixer. The very first day the plasterers covered 15 per cent more area than they had when using hand mixed material, and two less men had done the mixing. In the afternoon of the second day he stopped mixing by machine and returned to the hand mix. He did this to test the quality of the mixture. He said nothing to the plasterers but sent the hand mixed plaster in to them, and they began to remonstrate immediately saying that the men were not giving the material a thorough mix. This test proved three different things, namely: It took less men mixing to keep the plasterers busy, it gave a better grade of plaster and 15 per cent more work could be accomplished with the same amount of men.

The following are the large buildings on which "The Standard" is being used for mixing plaster: The 55-story Woolworth building, New York City, which is the largest building in the world; The 13-story building, corner 25th and Broad-

When Writing Advertisers Please Mention the American Carpenter and Builder.



Glidden
Green Label
Varnishes

BUILDERS and Contractors everywhere who use Glidden's Green Label Varnishes are proud of their choice and their clients are more than satisfied.

The Quality of Glidden Green Label Varnishes is unquestioned. The rare Quality of the gums and oils used in their manufacture, together with the skill with which they are manipulated and the thoroughness with which they are aged, before they are placed on the market, is the reason Glidden Green Label Varnishes are the highest grade varnishes possible to produce.

Let us send you free working samples or panels finished with Glidden's M. P. Durable Floor—the Dreadnought of Floor Finishes, Glidden's M. P. Durable Exterior—the ideal Exterior Varnish, Glidden's M. P. Durable Interior, the perfect Interior Varnish Glidden's Superior White Enamel—the ideal gloss white, or Glidden's Velvet White Enamel, the most nearly perfect egg shell white.

The Glidden Varnish Company
CLEVELAND, OHIO

FACTORIES:—Cleveland, Ohio

BRANCHES:—New York

Toronto, Canada

Chicago

London



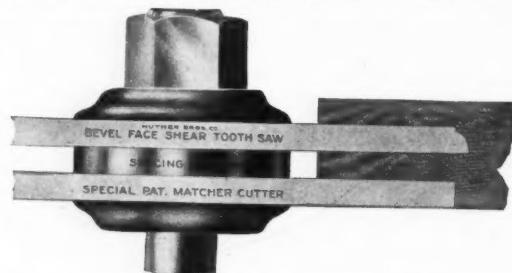
way, New York City; The Kansas City Union Depot, Kansas City, Mo.

As to cement mortar, Mr. Charles F. May of Kansas City, Missouri, one of the largest and oldest brick contractors in the West, used a six-foot Standard for mixing mortar on his Fiske Hall contract in Kansas City. Mr. May was working 14 bricklayers and not only did he dispense with two laborers in keeping these 14 bricklayers busy, but because of the superiority of the machine mixed material over hand mixed, the men were able to lay 15 per cent more brick. The Standard batch mixer is fully described in catalog 144, which can be had upon request of the nearest branch house of the Standard Scale & Supply Co., Pittsburgh, New York, Philadelphia, Chicago and Cleveland.



Saws for Making Slotted Joints

The builder who has a power woodworking shop with one or two machines in it, develops great ingenuity in making

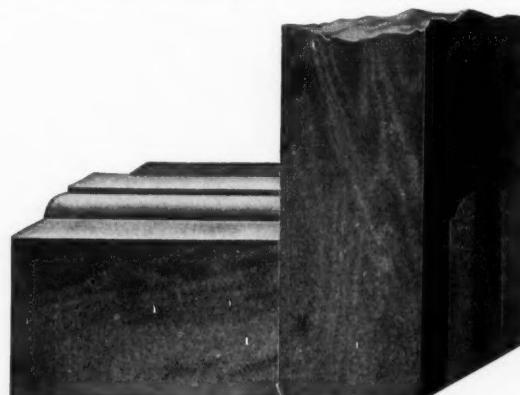


Huther Saw Combination for Cutting Slotted Joints

his few machines do the work of half a dozen, as it is ordinarily run in the fully equipped planing mills.

But he would not be able to do this except for the study that the manufacturers of woodworking machinery and ma-

chine knives have given his particular problems. Probably of the most versatile of power woodworker attachments is the dado head or grooving saw. Huther Bros., Saw Mfg.



Joint Assembled

Co., 1000 University Ave., Rochester, N. Y., have developed a line of these patent groover or dado heads that is especially ingenious. They can be used on any circular saw mandrel.

The accompanying illustration shows one of these heads made up to cut the slotted joint in window sash. The other illustration shows the joint produced by this combination of saws. This is a very neat and strong window sash corner. With this saw head combination—which can be used on any ordinary saw table, shaper, or tenoning machine—the carpenter and builder in his small power shop can make up his sash strongly and well, yet at small expense.

The Huther Bros. Saw Mfg. Co., will be glad to send any of our readers who will write them, full information concerning their line of special circular saws and cutter heads.



Lawrence St. Bridge, Flushing, L. I.
J-M Waterproofing Applied

being made of non-organic materials, are practically everlasting. When applied by our waterproofing department, even on the most difficult propositions, we *guarantee* perfect satisfaction.

We Are Prepared to take ANY Waterproofing Problem

We are in a position to not only supply, but also to apply materials for waterproofing residences, business structures, bridges, reservoirs, abutments, or any other structure that it may be necessary to waterproof, as well as mastic for floors in breweries, abattoirs, factories, reservoirs, etc.

J-M Waterproofing Materials

being made of non-organic materials, are practically everlasting. When applied by our waterproofing department, even on the most difficult propositions, we *guarantee* perfect satisfaction.

This department is composed of men who, through long experience and training, are recognized as experts in their line; and they are under the direction and supervision of one of the best known and most expert waterproofing engineers in the country.

The Engineering Department at our nearest branch will gladly co-operate with architects or engineers upon request.

Write for full information

H. W. JOHNS-MANVILLE CO.

Manufacturer of Asbestos
and Magnesia Products

ASBESTOS

Asbestos Roofings, Packings,
Electrical Supplies, Etc.

Albany
Baltimore
Boston
Buffalo

Chicago
Cincinnati
Cleveland
Dallas

Detroit
Indianapolis
Kansas City
Los Angeles

Louisville
Milwaukee
Minneapolis
New Orleans

New York
Omaha
Philadelphia
Pittsburgh

San Francisco
Seattle
St. Louis
Syracuse

For Canada:—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.
Toronto, Montreal, Winnipeg, Vancouver,

1842

When Writing Advertisers Please Mention the American Carpenter and Builder.



When you leave the job what varnish goes onto it?

Some people might say it is none of your business. But isn't it?

All the rest of the work is yours. Why, then, shouldn't you at least be interested in seeing that good varnish is used to complete the job.

We know that the carpenter's and contractor's advice is asked hundreds of times. He should therefore be in position to give an intelligent recommendation.

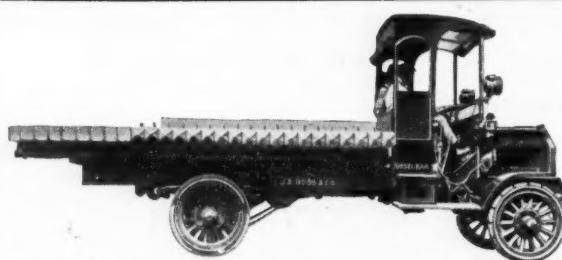
It seems to us to be a legitimate part of every carpenter's business to know what varnish is good and what is not.

That is why we pay money for this space to tell you that Berry Brothers' Varnish is always good—that you can safely recommend it.

*Send for a free copy of
"NATURAL WOODS AND HOW TO FINISH THEM"*

BERRY BROS., Ltd.

Detroit, Mich.



This three-ton KisselKar Truck in the service of the Ross Contracting Co., of Chicago, covers 100 miles daily. Weight of load shown, 10,500 pounds.

Reaching the limit of haulage efficiency

Every year an appalling number of horses die in harness.

They collapse from overwork, from insecure footing, from extremes of weather.

Delivery is delayed, time and money lost, general traffic impeded.

A KisselKar Truck will take on the task of three to five horse teams—substituting machine precision for animal lack of precision, reliability for uncertainty.

Weather conditions will not affect it—no exhaustion from heat—no ills from exposure to cold.

KISSELKAR TRUCKS

1500 lb.—1—2—3—4 and 5 Tons

KisselKar Trucks are the strongest, sturdiest and simplest of all trucks—the most enduring and the most economical.

Vanadium anti-fatigue steel used—the toughest and most resilient steel ever put into a truck chassis; the Kissel engine—the most responsive and powerful of motors; lock on differential locking both rear wheels together when traction is needed to pull one wheel out of a bad place; four speeds; lighter fuel consumption; easiest control; bodies built specially for any business.

A perfect service organization clinches KisselKar supremacy. Factory-trained experts in KisselKar construction—with a complete stock of replacements—are ready night and day in all principal cities to relieve owners of mechanical care.

Send for free track portfolio.

Kissel Motor Car Co., 546 Kissel Ave., Hartford, Wis.

Branches: New York, Minneapolis, Chicago, Milwaukee, Los Angeles, Dallas, Boston, St. Paul, Kansas City.

KisselKar Service Stations
and Agencies at over 200 leading
points throughout United States

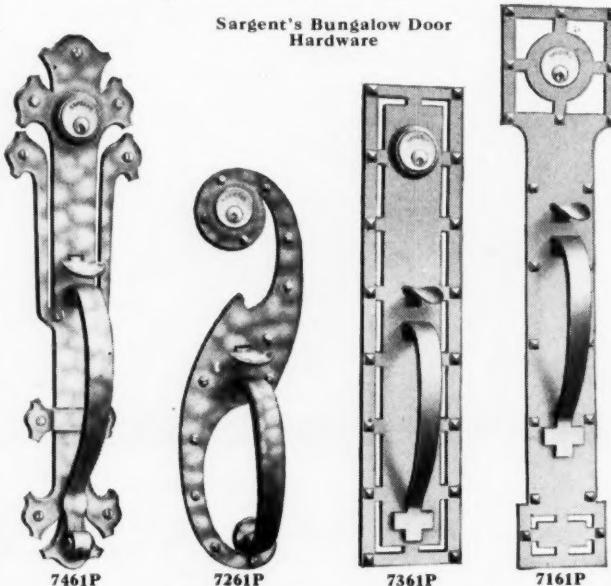
When Writing Advertisers Please Mention the American Carpenter and Builder.

Bungalow Front Door Handles

Bungalows are being built in great numbers all over the country; this type of dwelling meets the popular demand and appeals to a large class of people.

These buildings have a style of their own and special at-

Sargent's Bungalow Door Hardware



tention is generally given to the entrance door. This has led to the manufacture by Sargent & Company, New Haven, Conn., of the five front door handles which we illustrate herewith, all of these being particularly suitable for use on bungalows, also houses of the Craftsman or Mission styles.

Two of these handles (Nos. 7161P and 7361P) are furnished in both polished and sand finishes on brass and bronze; No. 7161P is also furnished in rustless-iron sand finish, with polished brass grip and studs, making a striking combination. No. 7361P in this finish has polished brass studs but the grip matches the plate.

Nos. 7261P and 7461P are supplied only in the antique sand finishes on brass and bronze and rustless iron finish; the combination of hammered plate with the finish is particularly effective. This is true of No. 4261P as well, but this number can also be furnished in polished brass and bronze.

The cylinder lock packed with these handles permits the use on the inside of the door of a knob and escutcheon in any of the Sargent designs, thus enabling the builder to use harmonious trimmings on the inside of the house.

Push buttons to match these handles can be furnished.

Will Give Away Cement Tile Machine

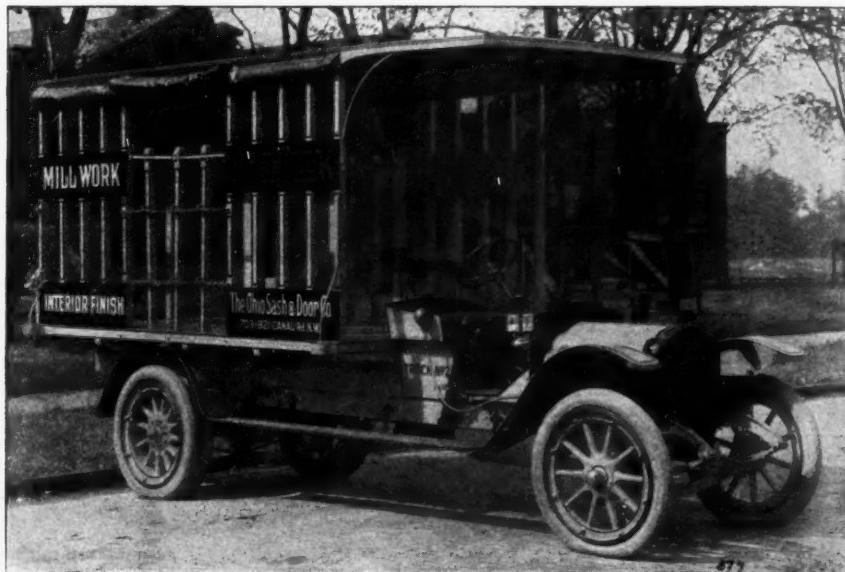
Our display columns of this issue announce a very enterprising idea on the part of the W. E. Dunn Manufacturing Co., of Chicago, Ill.

We are advised that this company is compiling some comprehensive data regarding the cement business. They are also about ready to place upon the market a new machine which has not yet been named. To quickly secure a name adequately describing it, also the data above mentioned the W. E. Dunn Mfg. Co., are offering one of their cement tile machines absolutely free to the one furnishing the best reply. This competition is open to every active cement products manufacturer in this country, also to parties contemplating engaging in cement manufacture.





WHITE MOTOR TRUCKS



WHITE Motor Trucks are, without doubt, the best known motor truck in the United States today. Among the prominent users of motor trucks in this country, the owners of White trucks are by far in the majority.

In the first place, White trucks are made in capacities of 3-4, 1 1-2, 3, 5 tons, making them suitable for practically every line of business.

Secondly, White trucks are designed and built in the best possible manner for the service they are to perform. They have passed through the real test—the test of service—and have made good.

Lastly, White trucks are manufactured by a company which has had the confidence and respect of the industrial world for over fifty years. The name of the White Company is the best guarantee in the world of the sterling quality of White trucks.

The White  Company

CLEVELAND

MANUFACTURERS OF GASOLINE MOTOR CARS, TRUCKS AND TAXICABS

Information concerning the new machine and the data desired will be furnished upon request or may be had at their exhibit at the Chicago Cement Show. Their name suggested and the address of the party furnishing same will be announced in the columns of our issue following the show.

This more than generous offer affords every man who will put on his thinking cap a very unusual opportunity to either increase his present equipment or a chance to get into the cement business. Certainly the enterprise manifested by the Dunn people entitles them to a visit from you to their exhibit in case you attend the Cement Show.

If, however, circumstances prevent your attending, be sure and drop them a line of inquiry regarding the competition and the offer they are making, and the data desired will be furnished.

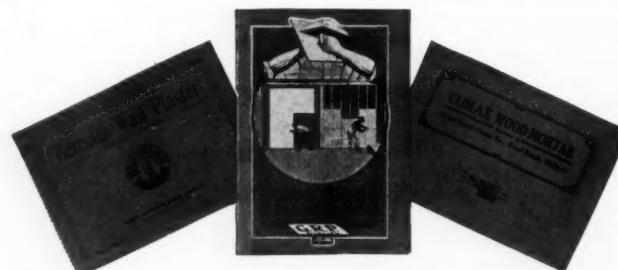


Waterproofing Materials Well Worth Considering

Among the many different brands of waterproofing materials now on the market, the H. W. Johns-Manville Co., 100 William Street, New York, are offering a line of fabrics, felts, cements and coatings known as J-M Waterproofing Materials.

These materials, which are the result of this firm's half century of experience, careful study and unexcelled facilities, are especially made to meet every condition in waterproof building construction and have been effectively used for waterproofing under-ground tunnels, walls of brick and concrete buildings, dams, reservoirs, swimming pools, etc., with much success.

This concern has issued a little booklet explaining fully the merits of their waterproofing materials, which they will gladly mail to anyone on request.



In preparing for your building season don't overlook the plastering question. Just remember you CAN put the big part of your profit from an entire job into the plastering work. Do you want to?

Do away with the use of a heavy, crackly lime mortar plaster and use a G. R. Hard Wall Plaster and you'll do away with all your plaster troubles. You'll be certain of making a good profit on every job and you WILL KEEP that profit for the simple reason that you will not have to be constantly repairing and refixing your G. R. Hard Wall plastering jobs as you are always doing with lime mortar plastering work.

These books we offer you FREE will explain Hard Wall plastering to you in every detail—and tell you in particular about the G. R. Hard Wall Plasters—Climax Wood Mortar—Hercules Wall Plaster—Superior Fiber Plaster—Gypsum Wall Plaster and Sackett Plaster Board. With this set we also send you our room measurement booklet—from it you can tell at a glance the number of square yards in a room.

Write in for our set of these books NOW—learn about our Hard Wall Plasters—and make up your mind to use them in this coming season's work.

Climax Wood Mortar

is being extensively used. It is a wood fiber plaster made of pure gypsum rock. It is the best plaster made. The fiber adds about one-third to the bulk of the plaster making it cover a greater area with less weight and maximum solidity and tensile strength. It is absolutely fire-proof. Its density prevents vermin. It is not affected by water. It is durable, flexible and pliable. It is plastic and very easy to spread—any plasterer can apply it. It is adhesive and permanent. It does not contain one particle of sand.

Just drop us a line that you are interested—that you want a set of the books and other particulars. We'll show you just why and how you can profitably use G. R. Hard Wall Plasters in all your work—also give you the name of your nearest dealer handling G. R. Plasters. Then get in touch with him and he will show you fully just how good G. R. Plasters are.

GRAND RAPIDS PLASTER COMPANY

Grand Rapids

Michigan

G.R.P. QUALITY

"Remember the
TRADE MARK"

GRAND RAPIDS
PLASTER COMPANY
GRAND RAPIDS, MICHIGAN

N. B. We solicit inquiries from Michigan, Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, West Virginia, and Pittsburgh districts, Pa., only. Freight rates will not permit shipment to other territory.

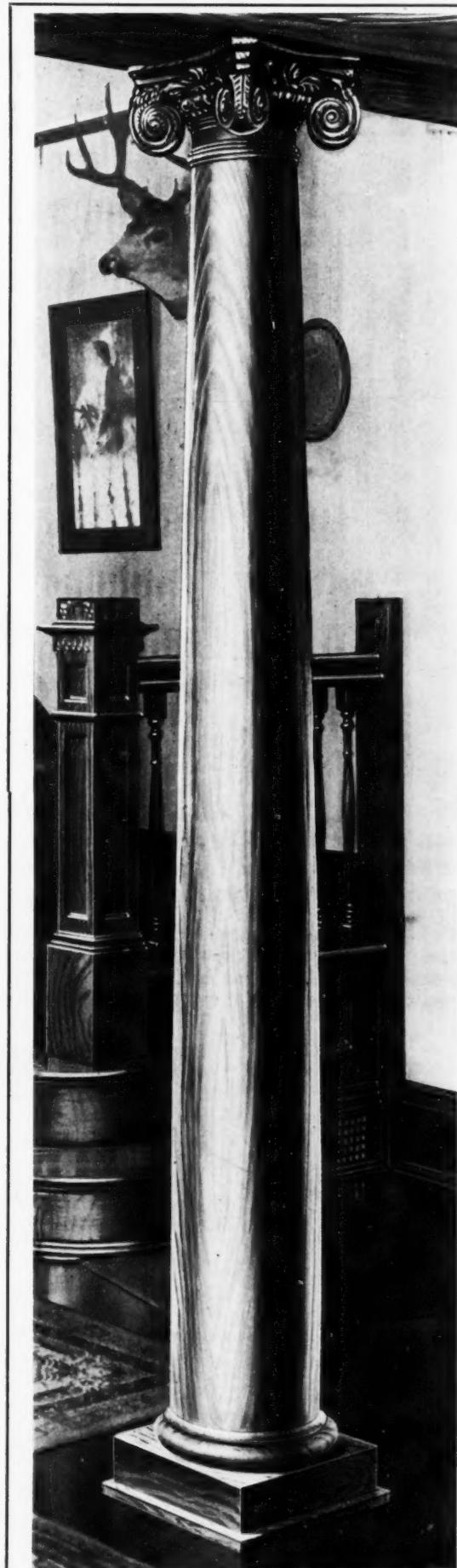
Start 1913 by Getting **FREE**
Your Set Of These Books



Your Set Of These Books

Hercules Wall Plaster

is a gypsum-rock-hair-fiber plaster we do not sand at the factory. It makes a wall that is dense, durable, hard, tough and economical. It is absolutely fire-proof. It dries quickly after applying. It spreads better and with less waste than any other wall plaster. We use only high grade hair in its manufacture. It contains no chemicals, acids or any vegetable matter.



RECOMMEND *Arkansas Soft Pine*

For trim in that new house you are building and you will secure results as pleasing as those shown.

Here is what an unimpeachable authority has to say about shortleaf pine for interior trim. This refers to Arkansas Soft Pine, the best shortleaf pine that grows:

"It (Arkansas Soft Pine) answers equally well as wainscoting, for chairboards, baseboards, brackets, cornice, roseblocks, ornaments, carved work, spindles, balusters, railing, stairs and panels.

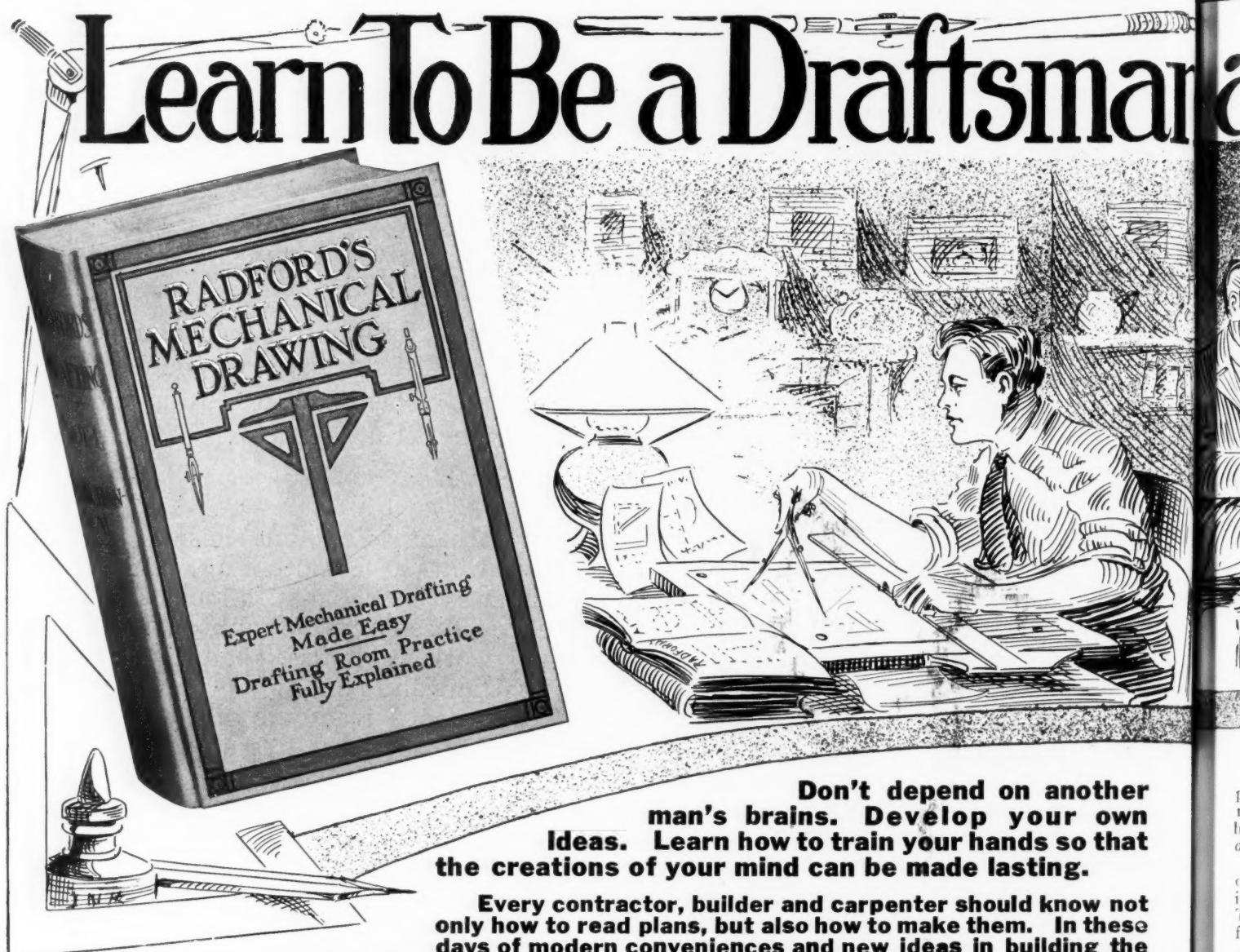
"It responds readily to oils, wax and other finishes and dressings."

—U. S. Government Report.

What we have to say about Arkansas Soft Pine for interior and exterior trim is embraced in a 24-page book, illustrated in color, telling of what has been done and what can be done with Arkansas Soft Pine Trim. Using this wood you can get any tone desired and *always that satin-like effect.*

Any of the Companies listed below will be glad to send a copy on request.

Arkansas Lumber Company, Warren, Ark.
Cotton Belt Lumber Company, Bearden, Ark.
Crossett Lumber Company, Crossett, Ark.
Eagle Lumber Company, Eagle Mills, Ark.
Edgar Lumber Company, Wesson, Ark.
Fordyce Lumber Company, Fordyce, Ark.
Freeman-Smith Lumber Company, Millville, Ark.
Gates Lumber Company, Warren, Ark.
Southern Lumber Company, Warren, Ark.
Stout Lumber Company, Thornton, Ark.
Wisconsin Arkansas Lumber Co., Malvern, Ark.



Don't depend on another man's brains. Develop your own Ideas. Learn how to train your hands so that the creations of your mind can be made lasting.

Every contractor, builder and carpenter should know not only how to read plans, but also how to make them. In these days of modern conveniences and new ideas in building the man who can work from his own designs has a tremendous advantage.

DEVELOP THE IDEA—CLINCH THE CONTRACT

To be able to present complete floor plans and details to a possible home builder, to lay out your customer's hazy ideas and suggestions into a tastefully arranged and accurately figured sketch, goes a long ways toward clinching a contract.

Books for All-Around Builders

These two books, "MECHANICAL DRAWING" and "ARCHITECTURAL DRAWING," have been prepared, written, illustrated and arranged for the kind of men who are readers of the American Carpenter and Builder—earnest, ambitious, alert contractors and builders and car-

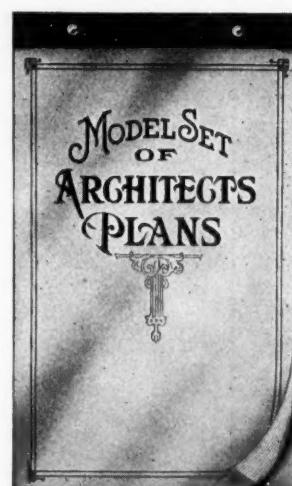
penters—men who are not satisfied with doing only one thing well, but are anxious to learn all that there is to know about their work and to be able to do any part exactly as it should be done.

Mechanical Drawing and Its Aim

Mechanical drafting or drawing is the process of representing on paper by means of one or more figures, the shape and size of an object, and the relation of its different parts one to another. It is the medium of communication between the designer or architect and the mechanic or builder. The architect plans a building; his ideas are represented on paper by suitable mechanical drawings of the structure, and these drawings are turned over to the contractor or builder to show the shape, dimensions and details required.

Easy Steps to Future Success

By means of these two books, the contractor, builder or carpenter can advance by easy steps from the first principles of drafting room practice to the complete work of an architect's office, including drawing to scale, tracing, detailing, lettering, rendering, designing, etc. He can combine the work of the architect and builder. He will learn not only how to plan the structure, but how to lay out the work, specify the materials and finish, make the contracts, and take complete charge.

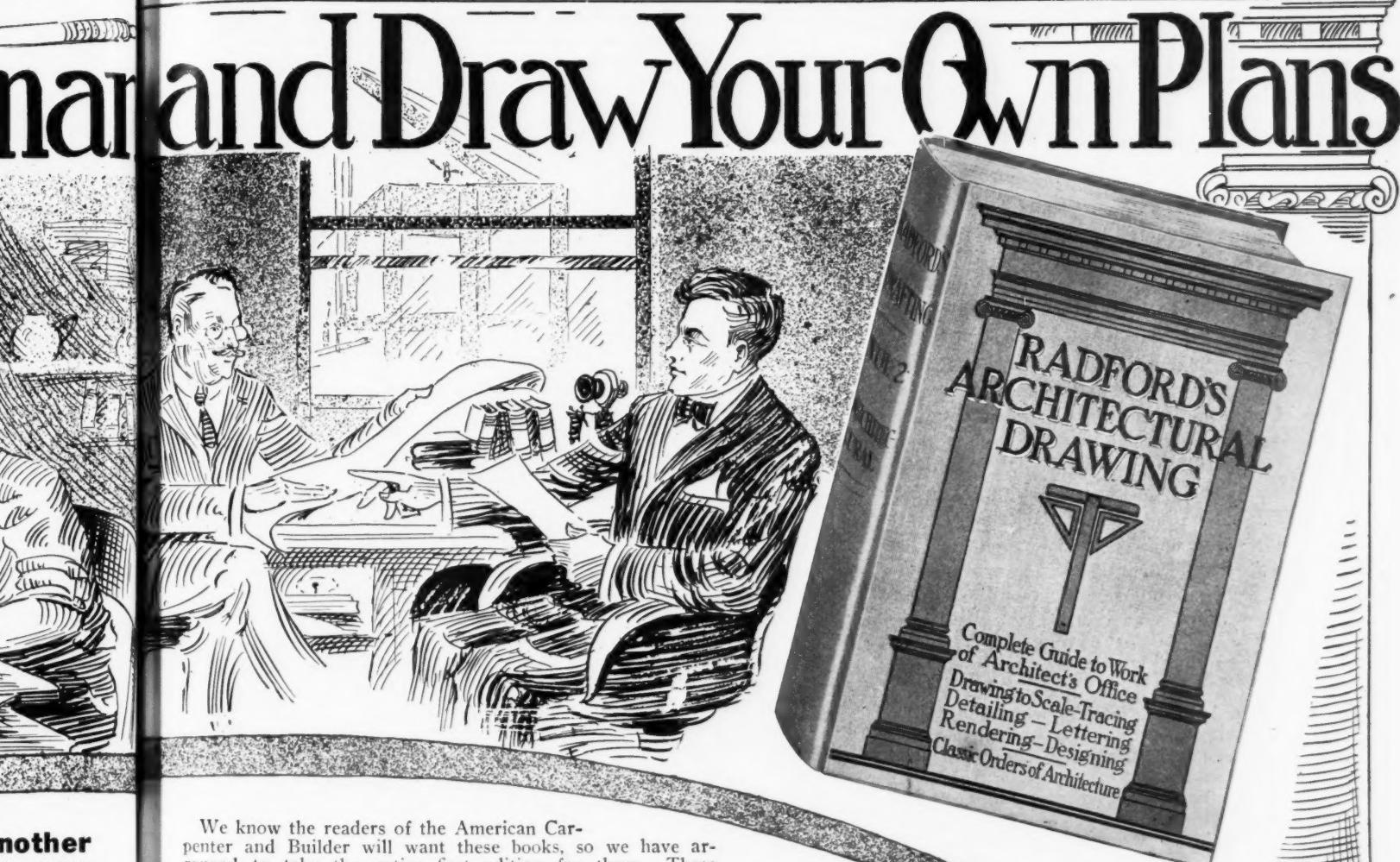


Sent Free with Every Set of These Two Books

Model Set of Plans FREE With Each Order

With each order for the two volumes of "RADFORD'S DRAWING" we will include a set of Model Architectural Plans. These consist of twelve architect's drawings of a modern ten-room residence, giving complete elevations and details throughout, and showing the installations of heating, lighting, plumbing, wiring and all other fixtures, conveniences and utilities. It is a complete set of plans, has been built from and is absolutely correct in every particular. It will be sent FREE with every order.

When Writing Advertisers Please Mention the American Carpenter and Builder.



We know the readers of the American Carpenter and Builder will want these books, so we have arranged to take the entire first edition for them. These books will not be for sale until after our folks have been supplied. *We are going to take care of our own people first.*

We have not even set a price on these books. Just now we are going to let our readers have them *at less than first cost to us*. The only way they can be obtained is in combination with a new subscription or renewal to the American Carpenter and Builder. There will be a tremendous demand for these books from our contractor-builder-carpenter friends, and we know the first edition will not last long. So get your orders to us early.

Table of Contents—Volume I

Mechanical Drafting—The Draftsman's Outfit—Instruments and Materials—Testing Instruments—Use of Instruments—Drawing to Scale—Penciling and Inkling—Geometrical Constructions—Approximations—Projection (Orthographic, Oblique, Isometric, etc.)—Planes of Projection—Ground Line—Quadrants—Plans and Elevations—Direction of Oblique Lines; Slope—Profile Plane—Auxiliary Planes of Projection—Intersection and Development—Non-Developable Figures—Intersection of Planes—Of Plane and Curved Surface—Of Plane and Cylinder—Of Solids—Visibility of Lines of Intersection—Development of Prism, Pyramid, etc.—Intersection of Cylinder and Prism—Of Curved Surfaces—Approximate Developments—Problems in Drafting for Construction (Finding Miter, Developing Mouldings, etc.)—Pictorial Drawing—Perspective Projection—Isometric Drawing—Non-Isometric Lines—Isometrics of Cylinders, Cones, etc.—Oblique Projection.

Working Drawings—Qualifications of the Draftsman—Detail Drawings—Assembly Drawings—Preliminary Sketches—Requirements of Good Drawings—Explanatory Notes—Conventional Lines—Shade Lines—Blue-Prints—Tracing—Dimensioning—Extension Lines—Over-all Dimensions—Finished Surfaces—Sections—Cross-Hatching—Conventional Representations of Materials—Lettering of Drawings—Spacing—Drawings for Building Construction—Working Plans (Basement, First Floor, etc.)—Structural Drafting—Solid and Built-Up Members—Rivets and Bolts—Reading Drawings.

Each Book Contains a Supplement of Perspective Views and Floor Plans of Forty Modern Homes.

Radford's "Mechanical Drawing" is a book of 272 pages, with 165 illustrations, and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

Radford's "Architectural Drawing" is a book of 304 pages, with 147 illustrations and a supplement showing perspective views and floor plans of 41 brick, cement and frame residences.

Each book is printed on high-grade paper, bound in cloth, is 6x9 inches, and has a beautiful illuminated cover.

These are Mr. Radford's latest and best works. They are practical books for home study and are designed for practical men.

Table of Contents—Volume II

Architectural Drafting—General Requirements—Negotiating with Owner—Scale of Drawings—Changes in Plans—Preliminary Sketches—Perspective Sketches—Competition Drawings—Working Drawings (General and Detail)—Scale and Full-Sized Drawings—The Plan—Layout of Rooms, etc.—The Elevation—Use of the Orders—Characteristics of Types of Buildings (Residence, Library, Schoolhouse, Office Building, Warehouse, etc.)—Colonial Architecture—General Composition—Treatment of Elevations—Location of Openings—Scale Details—The Section—Full-Sizing—Reproducing Drawings (Blue-Printing, White-Printing, Hectograph Process, etc.)—Tracing Cloth—Architectural Forms—Conventional Symbols (Drain and Sewer Pipe, Lighting, Heating, etc.)—Sizes of Furniture—Materials of Construction—Shades and Shadows—Direction of Light—Shadows of Points, Lines, etc.—Details of Construction—Cornice—Floors—Lath and Plaster—Flashing and Counter-Flashing—Doors—Porches—Fireplaces—Stairs—Windows, etc.

Sketching: Pen and Ink Rendering: Wash Drawings—Principles of Sketching—Pencils and Paper—Method—Laying Out a Drawing—Rendering (in Pencil, in Ink, in Water-Color)—Wash Drawings.

Orders of Architecture: Architectural Lettering—Tuscan, Doric, Ionic, Corinthian, and Composite Orders—Entablature, Column, Pedestal—Architrave, Frieze, Cornice—Column Details—Units of Measurement—Classic Mouldings—Forms and Proportions of Letters—Spacing—Titles and Inscriptions—Types of Letters for Various Uses.

A.C.B.
1-13

American
Carpenter and Builder

178 W. Jackson, Chicago.

Enclosed find \$4.00 for 1 year's subscription to American Carpenter and Builder, and the two new drafting books, "Mechanical Drawing" and "Architectural Drawing," and send them to below address. It is agreed that if these books are not satisfactory in every way that you will refund the above amount immediately on the return of the books, you to prepay all express charges.

When Writing Advertisers Please Mention the American Carpenter and Builder.

This Contractor Learned a New Wrinkle

A certain contractor and builder in a Western city was making a hard battle for a contract. It was for a medium-priced residence only, but he knew it would bring other contracts from friends of the "prospects."

His wife happened to show him some advertisements in a woman's magazine, relating to construction specialties right in his line. He did not know that such products were advertised in women's publications.

To make a long story short, he arranged with some of the advertisers to have the agency in his town for their goods. Then he asked the prospect and his wife if they knew about these goods, mentioning some of them.

That's Where He Met a Surprise!

The lady was familiar with about half of the things he mentioned, wanted them, and had, in fact, written to a few of the advertisers in times gone by. Her friends also knew about them, from reading women's publications.

He closed the contract that day. The magazine his wife showed him was Good Housekeeping—"the trade paper of the home." Some of the devices that helped him win the order were as follows, all advertised in and guaranteed by Good Housekeeping Magazine:

Standard Sanitary Plumbing Fixtures
Monarch Metal Weather Strip
Sherwin-Williams Paints and Varnishes
Maxwell's Lakeside Rug Border
Tyler's Domestic Hot Water Generator
Wild's Parquet Inlaid Linoleum
Elastica Floor Finish and Kleartone Stains
Brenlin Window Shades
United States Radiators and Boilers
Glidden's Green Label Varnishes, White Enamels, Endurance Wood Stains, Water-proof Flat Wall Finishes and Cement Coatings.

Sargent's Builders Hardware
Siwelelo Noiseless Closet
McCray Refrigerators
Utility Wall Board
Sanitas Wall Covering
Beaver Board
Pratt & Lambert "61" Floor Varnish
Vitralite White Enamel
Minneapolis Heat Regulator
Macbeth-Evan's Glass Shades and Globes
Alabastine Wall Tints
Alabasco Fast Wall Paint
Mellotone Wall Finish, High Standard Liquid Paint, Oil Stains (Lowe Brothers)
Imperial Sanitary Flooring
Valspar

Give The Public What It Wants It Wants Advertised Goods

The magazine publishes GOOD STOREKEEPING, a quarterly devoted to this question of cashing in on the wide demand for advertised products. A copy of it, and a copy of Good Housekeeping Magazine, will be sent free on request to any contractor or builder. Address Dealers Service Department, Good Housekeeping Magazine, 381-D, Fourth Avenue, New York.

When Writing Advertisers Please Mention the American Carpenter and Builder.

So a Woman Can Use It

No matter how mechanically perfect any article may be, if it is not adapted to being used by the housewife with no more than ordinary feminine mechanical ability, it is not adapted to the household. This would be particularly true with fast-cutting grinders on which a woman might be afraid of injuring the tool she was trying to sharpen.

The small grinder here illustrated has been put out by the Luther Grinder Mfg. Co. for a number of years. However, the new tool rest that they have just put on it makes it far more valuable for home use than it has ever been before.

This consists of a special guide coming up on each side of the grinding wheel. The knife is sharpened on the side face of the wheel, the guides insuring that just the proper bevel is maintained. The wheel turns from the operator, which obviates any danger of the knife being jammed between the guide and the wheel, as the wheel continually lifts the knife. Sharpening it on the side face of the wheel gives a finer, smoother edge than could be otherwise obtained. It leaves it also with no graining, especially if the knife is moved forward and back while being sharpened.

This guide is also especially adapted for scissors so they can be easily held at exactly the proper bevel. Altogether it makes an ideal sharpening machine for the home.



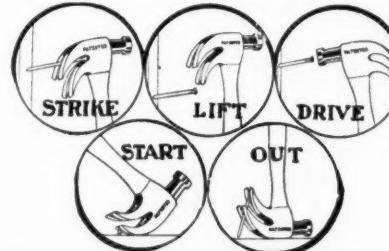
Knife Grinding Attachment

Double Claw Hammers Cheaper

It comes as good news to carpenters and builders that the new double claw hammer, with which many are now familiar in spite of the comparatively short time it has been on the market, has just been reduced about 40 per cent in price.

The manufacturers, The Double Claw Hammer Co., 453 Broadway, Brooklyn, N. Y., inform us that the demand for these hammers has become so great that they are now producing them in very large quantities and consequently the cost of production on each hammer is very much lessened, thus permitting the cut in price noted above.

The distinct advantages of the double claw hammer are pretty well shown in a graphic way in the accompanying drawings. This hammer holds the nail securely for high, low, or far across nailing. The center of the head is directly in line with the nailing face, making the double claw hammer a fast nailer. As for pulling nails, this hammer pulls them



Driving and Pulling Nails With Double Claw Hammer

straight out without requiring a block. It pulls the nail easily because it pulls straight out instead of bending or dragging the nail against the wood. In view of the fact that 10 to 15 per cent of finishing nails start wrong, this straight pulling is of considerable consequence.

The double claw hammer is being manufactured now in two sizes 16 ounce and 21 ounce heads. It will pay carpenters to get acquainted with this hammer.

UNCLE SAM SPEAKS ANOTHER GOOD WORD FOR

"THE
WOOD
ETERNAL"

CYPRESS

"THE
WOOD
ETERNAL"

Dept. of Agriculture, Forest Service, Bulletin 95, Page 44, issued June 30, 1911, says of *Cypress*:

"The properties which fit it for such wide use are the freedom of the wood from knots and other defects . . . and the *long period which the wood may be expected to last*. To this might be added handsome appearance, which frequently has much to do with popularizing a wood."



Further on CYPRESS, the same Government Report says: "The wood contains little resin and thus affords a good surface for paint, which it holds well. . . . It is a popular wood where it is subjected to dampness and heat. It shrinks, swells or warps but little. . . . For the parts of houses exposed to the weather it serves equally well."



Both quotations above are from Bulletin 95, (page 44) U. S. Dept. of Agr. (Forest Service), June 30, 1911.

"The Money You Don't Have to Spend on Repairs is ALL PROFIT."

When planning new improvements or repairs to old ones, just remember—"With CYPRESS you BUILD BUT ONCE."

WRITE TODAY for VOLUME ONE of the CYPRESS POCKET LIBRARY, with Full Text of OFFICIAL GOVT. REPT. Also Full List of 34 Other Volumes. (FREE on request.)

Let our "BUILDER'S DEPARTMENT" help YOU. Our entire resources are at your service with Reliable Counsel.

SOUTHERN CYPRESS MANUFACTURERS' ASSOCIATION
1216 HIBERNIA BANK BUILDING, NEW ORLEANS, LA.

INSIST ON CYPRESS AT YOUR LOCAL DEALER'S. IF HE HASN'T IT, LET US KNOW IMMEDIATELY.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Every Architect, Contractor and Builder Should Have This **PORTFOLIO of WOOD PANELS**



Let Us Send You One FREE

With it you can show your clients just how their woodwork and floors will look when finished with Johnson's Wood Dye, Prepared Wax, Under-Lac, Flat Wood Finish, etc.

In this Portfolio the Johnson Finishes are shown on oak, pine, cypress, birch, gum, chestnut, maple, etc. Panels of other woods sent on request.

The Portfolio also gives full specifications and instructions as well as covering capacities. Any good painter can successfully use Johnson's Artistic Wood Finishes. Secure one of these portfolios at once to show your clients—from it prospective builders can easily select the finish for their floors and woodwork.

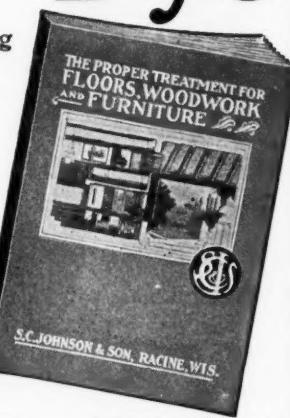
Johnson's Wood Dye

is a dye in every sense of the word—it penetrates deeply—into the wood, bringing out its natural beauty *without raising the grain*. It dries in thirty minutes and does not smudge or rub off. It is made in sixteen beautiful shades, as follows:

No. 125 Light Oak
No. 123 Dark Oak
No. 125 Mission Oak
No. 140 Early English
No. 110 Bog Oak

No. 128 Light Mahogany
No. 129 Dark Mahogany
No. 127 Ex. Dark Mahogany
No. 130 Weathered Oak
No. 131 Brown Weathered
No. 132 Green Weathered

No. 121 Moss Green
No. 122 Forest Green
No. 172 Flemish Oak
No. 178 Brown Flemish
No. 120 Fumed Oak



Coupon

Please send
FREE Portfolio
of Wood Panels and
1913 Book, Edition ACB1

Name.....

Address.....

Business.....

Also Get This Book FREE

The 1913 edition ACB1 of our book "The Proper Treatment for Floors, Woodwork and Furniture" is just off the press. Send for it today. It far surpasses all previous editions. It is full of valuable ideas and information for everyone interested in the proper finishing of wood. Its practical suggestions may mean money to you.

S. C. Johnson & Son, Racine, Wis.
"The Wood Finishing Authorities"

Generous Samples FREE To Builders, Architects, Contractors



LET us send you free samples of Johnson's Flat Wood Finish and Johnson's Wood Dye, also a copy of our Instruction Book Edition A. C. B. 1. Architects, Contractors, Painters and Home Owners are enthusiastic over the results obtained and the big saving made possible with them.

Johnson's Under-Lac

is a superior substitute for shellac or varnish. It forms a thin, elastic, spirit finish which will not chip, mar or scratch. It dries hard in less than an hour. We recommend its use where a higher gloss is desired than the wax finish. It is unsurpassed for first-coater under varnish.

Johnson's Flat Wood Finish

is a liquid—an easy spreading preparation, manufactured especially for finishing interior woodwork of new residences and buildings—as well as furniture—and equally valuable for refinishing old surfaces.

This flat wood finish opens a new field for the contractor and builder. By the use of Johnson's Flat Wood Finish, you can make estimates on hand-rubbed effects that will land the contract every time—give your customer perfect satisfaction—and make you a good profit besides.

Don't fail to secure Instruction Book Edition No. A. C. B. 1 and samples at once. If your dealer isn't supplied, write us and we will send them direct on receipt of postal or coupon.

S. C. Johnson & Son, Racine, Wis.

"The Wood Finishing Authorities"

S. C.
Johnson
& Son,
Racine, Wis.

Please send
me free sam-

ples of Johnson's

Under-Lac, Flat Wood

Finish and Wood Dye

Shade No..... Also

Instruction Book Edition A C B 1

My Dealer's Name is.....

His Address.....

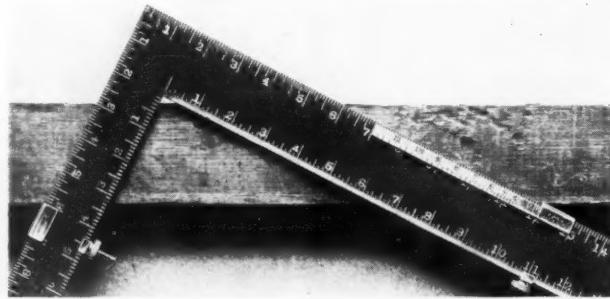
My Name.....

Address.....

Parkhill's Pitch Gauge

As any addition to the art of roof-framing always attracts the keen attention of carpenters, they will be especially interested in the little tool shown on a square, in the illustration. It is known as Parkhill's New Universal Pitch Gauge, and has lately been put on the market by John Parkhill of Rochester, Minn. We have had the opportunity to examine this gauge and in several respects it shows a decided advance.

Some of the more difficult problems in roof-framing easily



Parkhill's Pitch Gauge Fastened to Steel Square

handled with it include the following: Irregular hip and jack rafters; both bevels on purline, and on plancher and fascia; hip-backing; octagon hips and jacks. As illustrating the simplicity and effectiveness of the Universal any one of these cuts can be marked with it in a few seconds even by an unskilled framer. The Universal also marks many other cuts and bevels not easily found, including hopper bevels, etc. Its simplicity of operation, however, is perhaps its greatest advantage, making it particularly valuable to unskilled framers. As shown in the illustration, a small clamp goes with the

gauge, the two together making a most effective stair and brace gauge.

Mr. Parkhill has a liberal free test offer; and will gladly send full particulars.

**51,000 Thor Washers in Use**

The popularity and effectiveness of Thor electric laundry machines is amply evidenced in the fact that at the present time there are over 51,000 Thor electric laundry machines in use.

These Thor machines are manufactured by the Hurley machine company of Chicago, who are also manufacturers of the well known and extensively used "Little Giant" floor scrapers.

The Hurley company in their latest catalog illustrate and describe fully their line of "Thor" electric laundry machines and other equipment for installation in private homes, apartment buildings, country clubs, convents, hotels, cafes, hospitals, sanitariums, and other institutions. The private home and institution demand a satisfactory solution of the laundry problem, and how well the Thor electric equipment has solved this problem is evidenced by the fact that there is not a city in the United States, using electricity, where their machines are not in use. The idea that it is necessary to employ hard, fatiguing hand labor to get perfect results in the laundry is rapidly being dispelled and the Thor electric laundry machines are contributing very largely toward the elimination of this idea.

The laundry machine catalog and also the circulars covering the "Little Giant" floor scraper can be had by any AMERICAN CARPENTER AND BUILDER reader addressing the Hurley machine company at either 1008 Flatiron building, New York City, or 37 So. Clinton Street, Chicago, Ill.

Here to Stay-



because *merit* is sure
to be recognized.

We thoroughly believe in the
superiority of our high grade
COPPER BEARING
Open Hearth Roofing Tin.

So will you.

Write for full information and quotations on Tin and Terne Plates, Apollo Best Bloom Galvanized Sheets, Formed Metal Roofing and Siding Products, BlackSheets, Etc. Send for Pocket Reference Book.

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When Writing Advertisers Please Mention the American Carpenter and Builder.

Germantown Hammers and Hatchets and Why.

Mr. Tool User,
Anywhere,
U. S. A.

Dear Sir:-



You are cordially invited to visit our new reinforced-concrete plant (made necessary by the demand for Germantown hammers and hatchets).

Established in 1857, it is the most perfectly equipped and largest plant in the world devoted to producing only one brand of hammers and hatchets.

We are now in a position to give SERVICE to the trade so you can secure from your dealer without delay the hammer or hatchet suited to your work, of Germantown quality, at a price no higher than ordinary tools, hammers from 50c to \$1.25, hatchets from 50c to \$2.00.

No HAMMER equals the GERMANTOWN in the hang, balance, head, and claw.

The GERMANTOWN HATCHET being made of solid tool steel has double the service of the ordinary.

The GUARANTEE of SATISFACTION goes with every tool bearing our label. We would sooner lose a dozen tools than have one honestly dissatisfied user.

Drop us a postal so we can tell you more about tools in which you are interested.

THE GERMANTOWN TOOL WORKS,

Philadelphia, U. S. A.

The best guarantee for the purchaser is the name of a well known and reliable manufacturer.



Master Builder Hammers
are made with the nail holding device which enables the user to drive nails beyond ordinary reach.

Do not fail to see and test this hammer.



Germantown made the first claw that would pull the head of a 10d. nail through an inch plank.

A Special Eureka Mixer of Distinct Advantages FOR BUILDING CONTRACTORS

Low in Price

High in Quality

Over 300 Eurekas Used in New York City

Eureka No. 60 for Small Work

On high wheels—portable—moved like a wagon—makes money on small jobs—three or four men can run it—gives you from one to eight yards an hour, as wanted—less than one-half the men required compared with hand mixing—produces that smooth, perfectly blended mixture so necessary for high grade work—all steel and iron construction—long life, free from break-downs, lost time and repair expense—positively guaranteed to be superior to the ordinary mixer in advantages, quality and performance—shipped anywhere for your approval. Ask for Catalog No. 30 and names of Eureka users in your locality.

"Worth its Weight in Gold"

Good Thunder, Minnesota, October 7, 1912.

Eureka Machine Company,
Lansing, Michigan.

Gentlemen:

I cannot praise the EUREKA machine enough. My machine has proven itself worth its weight in gold to me. I am not exaggerating at all. I certainly have had a successful year. Just an insight:

I was in partnership with a fellow last year and he flunked on me. I had my accounts all paid up when he cleared out, and he left a good share of his accounts behind. Of course I had to straighten these this year. He left over \$700, which I had to settle up. Now then, the little EUREKA No. 60 helped me to do this. And above all, the Eureka Machine Company, through their great kindness, helped me also. Many thanks to the Eureka Company. You will see me in person later.

A. B. NICHOLS.

Eureka Machine Co.
85 Handy St. :: LANSING, MICH.

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New York	Chicago	St. Louis
Cincinnati	Dallas	Peoria
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	Jacksonville	

When Writing Advertisers Please Mention the American Carpenter and Builder.

Great Opportunity for Builders

By C. J. Helm

Sec'y. and Mgr. of the Helm Brick Machine Co.

I want to say just a word to the readers of the AMERICAN CARPENTER AND BUILDER to call to their notice what I firmly believe to be a worth-while, money making line of work—or side line, if you will—for them:—The manufacture of cement brick.

I feel so confident that the wide-awake carpenters and builders who read the AMERICAN CARPENTER AND BUILDER will be interested in this opportunity and will want to study into it, that I have had prepared a special Hand Book on Concrete Block and Brick Making, which explains fully—and in a most interesting way—everything a prudent man would want to know about a business before launching into it; and this "Hand Book" I will gladly mail to any reader of the AMERICAN CARPENTER AND BUILDER on request.

I have watched the cement brick business pretty carefully for a long time; and two things have been demonstrated very clearly to me about it. First, cement bricks compete successfully in practically every locality with the best pressed brick of burned clay. And second, building contractors are exceptionally well fixed to make good money manufacturing cement brick as a side line to their regular building practice.

Let us consider the second of these counts first.

A contractor and builder, in the course of his career, gathers around him a picked group of workmen whose ability he is sure of and on whom he can absolutely depend. He wants to keep these men busy even through the slack season. He can't afford to let them go. Neither can he afford to let them sit idle the days and often weeks when active building operations are impracticable.

If such a contractor would only fix up a small cement brick making plant—a Helm Brick Machine and a lean-to shed to operate it in would be all required to start—he could keep his crew busy at odd times and at the same time make enough high-grade brick to supply all his needs on his several jobs.

Almost every building these days needs some cement brick—for chimneys, or porch piers, or porch rails, or basement walls or area flooring, or for a dozen other miscellaneous uses. Then there are the houses—and attractive, substantial buildings they are too—which are made all of cement brick.

The shrewd contractor and builder will readily see the money in it for him, both of taking the contract for a building and also of making himself the materials of which the building is put up. There is a double profit, not only the contractor's profit, but also the manufacturer's profit. And the contractor and builder can have them both, simply by the small investment needed to put in a good cement brick machine and there keeping his gang busy during odd times working it—turning out pressed brick in quantities which easily sell at from \$10 to \$20 per thousand, competing successfully with face brick of burned clay.

Why, I have seen successful builders doing a prosperous contracting business, take up cement brick making as sort of a side line—thinking to make just enough brick to satisfy their own needs—and after a year or so devote their entire energy to cement brick making and selling—there was so much more money in it for them than in their former regular work!

As to the quality and appearance of cement brick, I need only to call attention to the fact that cement brick are increasing in popularity every day. They are being used in large important work. The architects favor them. Brick masons lay them without prejudice.

The following letter, written to the Belknap Cement Product Co., of Greenville, Mich., is interesting in this connection. This is a prosperous cement brick manufacturing con-

Get into the Concrete Industry with the Building System and Equipment which will Land the BIG CONTRACTS AND BIG PROFITS

No matter how much equipment you may now have or whether you are yet to make your first purchase, it is to **your** advantage to **read every word** of this announcement and send for full particulars. The concrete industry is just in its infancy as to possibilities. It's a business however that now calls for the **best** equipment that money can buy. The day of profit making with cheap, inferior moulds is past but the business is better. Labor saving equipment with great capacity must now be used. Buyers turn to the plant that can deliver the goods in big quantities and **on time**.

There are BIG CONTRACTS with their BIG PROFITS Ready for You when Rightly Equipped

No matter where you are, how little the town or how big the city, if you make the right products and advocate the right building system there is a **ready** market for you. You can make products as **staple** as clothing or groceries. Here are experiences you might as well put yourself in position to relate as to let others do it:

I landed a \$90,000 Government contract with pressed cement brick.
Just landed a contract for 400,000 brick.

We are working on a contract for a half million brick.
Made a million brick this season on one of your presses.
My daily manufacturing profits on blocks average \$25.00.

Working on a contract for a quarter million brick.

Turned out 17,000 blocks in less than a month.

Made nearly a million brick in five months for my government contracts.

Six weeks behind on orders. DRY WALL system meeting with great favor.

We might go on and on quoting such experiences of men who land the big business and make the **big money** by using our equipment and system but these few instances must urge you to write now and make the investigation you owe to yourself. You should know about the equipment which will make such reports possible.

We don't know how to impress it on you stronger than by quoting these experiences of users of our equipment and system.

We want to Point You to the Equipment which will Make the BIG MONEY for YOU because it Does it for Others. Even makes as high as \$20 to \$50 DAILY.

This is the equipment that competitors are advertising by "knocking." It seems to be the center of attack. There is a reason why and if you investigate you will learn it is the reason why you should buy it. Everything conceivable is being brought out to compete with it, machines with flappers and various tampers trying to meet its speed but it leads them all.



You Will Eventually Buy this Equipment so Don't Lose Time, Contracts and Profits in Trying to Make Something Else Answer the Purpose.

You ought to buy this equipment now. We cannot tell you here the many reasons why you should buy it. We have told you the results expressed in the experience of others and here are seven features which make possible such results. We want you to consider each one carefully:

The Pressure System with 80,000 lbs. pressure drives the concrete together as nothing else does. It requires less labor and makes the best product.

The Face Up System which means sharp corners and edges. Less facing used, breakage prevented by not turning over the product to remove it from machine.

The DRY WALL Building System which Overcomes Resistance to Concrete. This is the system which appeals to builders, contractors and architects. It overcomes the opposition to concrete because it offers absolutely DRY WALL construction. It saves money for builders as no furring and lathing are required and it makes rigid walls and fireproof walls.

Send for Free Catalog and HANDBOOK ON CONCRETE

Tear off the corner coupon right now, before you turn the page. You cannot afford to be without the information these books contain. You want to know what products pay best, how made and cured—about the latest labor saving equipment—steam curing—grading and proportioning, etc. All this explained in these books and many other features. Write today. Now, while you think of it.

The Enormous Capacity which is not merely an idle claim on our part but the actual demonstrated capacity in various concrete plants.

The Adaptability for hand or power operation and interchangeable. Built in two different sizes for stationary and portable plants.

HELM BRICK
MACHINE CO., 571
Bank Bldg., Traverse
City, Mich.: Please send
FREE the catalog and HANDBOOK as advertised in A. C. & B.

Helm Brick Machine Co.
571 Bank Bldg. - - - Traverse City, Mich.

Name.....

Address.....

When Writing Advertisers Please Mention the American Carpenter and Builder.

Air Must Be Moist And Clean As Well As Warm — And It Must Be Cheaply Heated

On this principle Campbell's Winter Chaser Furnaces were made and on this principle they have given utmost satisfaction for more than 25 years.

The extra sized air-chamber of the Winter-Chaser has a large entrance door for cleaning purposes. And in this large, clean chamber, the air is never over-heated—a big point of Fire-insurance.

CAMPBELL'S Winter Chaser Furnace Guaranteed

reduces cost of heating so materially that it will pay for itself—the perfect combustion insures heat with least fuel.

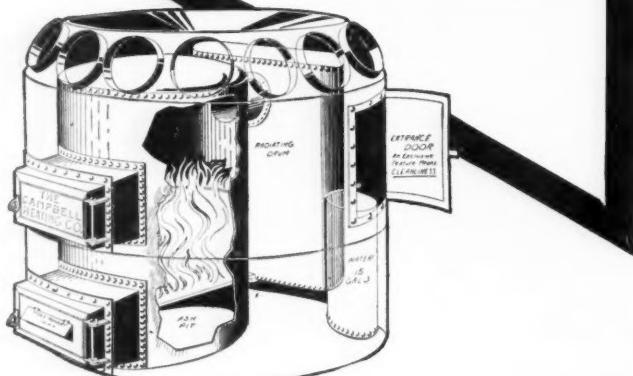
The dry air of the ordinary heating method is ruinous to health, and hard on the furniture and woodwork. The Campbell Furnace has a large water reservoir which evaporates a sufficient quantity to supply the air with the moisture it needs. No cement joints are used in this furnace. It is gas, smoke and odor-proof.

Hundreds of Campbell heaters in use today were installed a quarter of a century ago. Made of thicker steel than is built into any other furnace in the United States. All contractors realize the importance of having a house well heated—it brings more money and general satisfaction.

Send for our booklet "Twice-a-Day." Get the benefit of our splendid engineering staff on installation plans and advice.

Write, also, for our plans of selling the Winter Chaser. Address

Campbell Heating Co.
1221 Walnut Street Des Moines, Ia.



When Writing Advertisers Please Mention the American Carpenter and Builder.

cern, their equipment consisting of a Model 5 Power Helm Press having a daily capacity of 15,000 brick.

Belding-Hall Company
Manufacturers of Refrigerators

Belding, Michigan, Dec. 23, 1911.
Belknap Cement Product Co.,
Greenville, Mich.

Gentlemen:—We purchased of you a couple of years ago a quantity of brick in building an addition to our plant, and this year we have used another quantity in the construction of a warehouse and in connection with this wish to say that we much prefer the cement brick to any other kind.

We have had difficulty in years past with clay brick disintegrating and these seem to stand the weather and exposure better than any brick we ever used, and if we were to construct another mill or plant at the present time we should specify that the building be constructed with cement brick.

Yours very truly,

BELDING-HALL CO.

I want to mail a copy of this "Hand Book on Concrete Block and Brick Making" to every reader of the AMERICAN CARPENTER AND BUILDER who is interested in this subject. Address Helm Brick Machine Co., 571 Bank Bldg., Traverse City, Mich.

New Plant for Milwaukee Corrugating Co.

An important event to the sheet metal industry and building interests is the completion of the new home of the Milwaukee Corrugating Co., of Milwaukee, Wis., into which they are now moving, and making preparations to handle the large volume of business booked for spring delivery.

Starting about ten years ago, the Milwaukee Corrugating Co. thought they had made provision for space that would be adequate for their requirements for a long period; but their business has made enlargement necessary. For the past year they have been developing a plant which is as perfect and complete as modern methods can make it.

In the new factory will be installed special automatic machinery to be used for manufacturing the company's lines of crimp-edge cutters, interlock conductor pipe, "Titelock" shingles, invisible joint metal ceilings, one-piece elbows, mitres, Kuehn's "Korrekt Kut-Offs," conductor hooks, eaves trough hangers, etc.



New Home of Milwaukee Corrugating Co., Milwaukee, Wis.

The new plant is of steel and brick construction with saw tooth roof. Skylights and windows are liberally provided, thus arranging for a maximum amount of light and air.

The company will have a floor space of one-quarter million square feet enabling it to carry a much larger stock than ever before. This feature together with the excellent facilities to manufacture sheet metal products of practically every description, will serve to increase the efficiency of the trade by taking care of their requirements and demands without hesitation or delay.

We are sure the Milwaukee Corrugating Company are prepared to and will demonstrate what capacity, service, experience and minimum manufacturing cost can do to promote the welfare and success of its patrons.



**Here I Am Again—
Back To Tell You About**

THE HOLLAND FURNACE AND HOLLAND SERVICE

I have been so busy for the last eight months shipping out Holland furnaces and—through Holland Service—assisting my many contractor and builder friends in working out heating plants for the residences and buildings they are putting up that I simply have not had the time to get around and see you each month.

Do you know that early last Fall we had to telegraph all our salesmen and agents NOT to take any more orders for furnaces? We were simply overloaded with orders then. That certainly proves something—doesn't it? It proves that our Holland furnaces—with Holland service—are giving complete satisfaction in every way and that home builders and home owners simply insist upon having the Holland.

You want to think that over and now that I have my work pretty well in hand I am going to get back on the job with you and tell you all about our furnaces and our way of helping you do a good furnace business. It will pay you well to read thoroughly—and think it over more thoroughly—just what I have to say.

Our Holland furnace is a furnace built for heat and comfort. It is manufactured by a complete, competent organization—an organization that vouches for and stands back of every Holland installed. What better combination could you want?

And our special service department—the Holland Service—is particularly intended to help you in solving your furnace difficulties. You send us the floor plans—with instructions as to which rooms are to be heated)—of any residence or building you are putting up. Our heating engineers will then submit to you detailed plans and specifications, prices, etc., covering the entire heating equipment. No—we don't charge you one penny for this service.

Here is something else I want to tell you about. Do you know that you can install any Holland furnace easily? Well—you can—and do it quickly, and a good, neat, satisfactory job, too. You can do a far better job with the Holland—assisted by Holland Service—than the average tinner does in installing furnaces.

Our Holland furnace is a furnace that is built in every respect of the best materials and upon practical, common sense heating principles. It burns all the fuel—from the side and over the top—the natural and right way. It cuts coal bills in half because it burns everything combustible. It is always clean and is practically repair proof. It's fire-pot—the Holland fire-pot—is not equalled in any furnace manufactured to-day.

Our Holland Cone Grate—Our Holland Air Admitting Fire-Pot—Our Holland One Piece All Cast Iron Radiator, are exclusive Holland features. They are a guarantee to you of quality and satisfactory service.

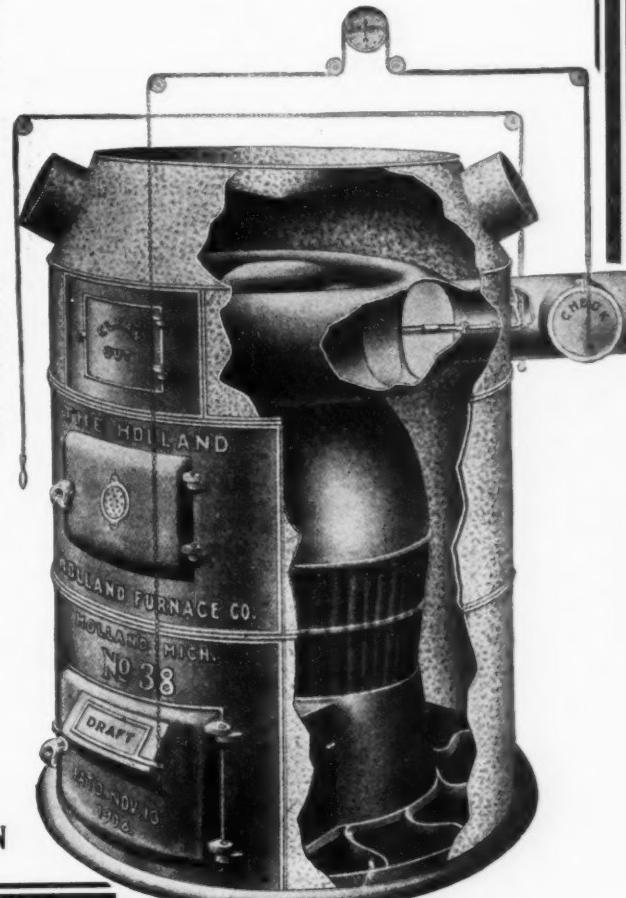
"HOLLAND FURNACES MAKE WARM FRIENDS"

Why not write me today about your furnace jobs? I can show you just how, and why, and where we can help you. Let me send you our complete furnace catalog and some other interesting information.

Remember—you don't place yourself under any obligation in asking—and I most certainly think you ought to know all about our furnaces and our service before you make any definite furnace arrangements.

You better let us hear from you right away.
Why not?

Holland Furnace Company
HOLLAND :: MICHIGAN





White Three-ton Truck Used to Hoist an 80 Foot Sheet Iron Smokestack Into its Cradle, Twenty Feet Above the Ground

New Duty for Motor Truck

The many duties which motor trucks are called upon to perform was broadened during the past week, when a White three-ton truck was utilized to hoist an eighty foot, sheet iron smokestack into its cradle, twelve feet above the ground, at a newly installed boiler plant, erected for the Belle-Vernon-Mapes Dairy Company, of Cleveland.

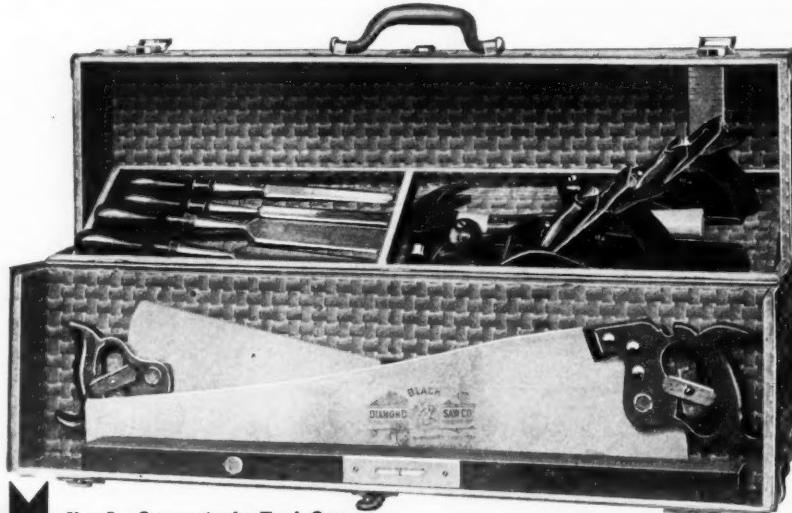
Although the stack weighed nearly 4500 pounds, the White truck unhesitatingly picked it up from the ground and set it in position in a very few minutes, without the least exertion.

Stevedores of long experience who had this work in charge marvelled at the way the truck accomplished this task, and its advantages over other means of hoisting heavy and cumbersome articles, and further said they would utilize motor vehicles for this branch of their work in the future. The saving in time and labor alone were features which, from an economical standpoint, strongly appealed to them.



This Coupon Is Worth 50 Cents To You

IN PAYING FOR THIS TOOL CASE



No. 8—Carpenter's Tool Case

to and from work. Has heavy brass corners and securely riveted leather handle (guaranteed not to come off), a good strong tumbler lock impossible to pick, and extra heavy rods.

Your tools can be kept separate in this case as it has a compartment for saws, levels, planes, etc. Has also a removable tray for chisels and bits.

Size 26 in. long, 16 in. deep and 7 in. wide inside.....

Size 28 in. long, 16 in. deep and 7 in. wide inside.....

Size 32 in. long, 16 in. deep and 7 in. wide inside.....

Our tool trunks are thoroughly durable and good looking. They are made right in every respect.

Send us in NOW this Coupon, either ordering the case you want or asking for our catalogs. Better tend to this right away. Also remember we can make you any special size case or trunk to order.

Wm. Lorenz Trunk Works

107-109 Second Street South

:::

Minneapolis, Minn.

Send Me This Coupon and Save 50 Cents

Wm. Lorenz Trunk Works, Minneapolis, Minn.

Dear Sir: In ordering either tool case or trunk from you I understand this coupon is worth 50 cents toward payment of purchase price.

If ordering Check This Form (Enclosed amount—less 50 cents—covers payment for tool case) or

Check This Form for Catalogs (Please send me your catalogs without any obligations to me.)

Name.....
Address.....
City and State.....

When Writing Advertisers Please Mention the American Carpenter and Builder.



The Builder Who Uses Utility Wall-Board is the Builder Who Makes the Money

Utility Wall Board is a tough fibre board put together with two insulations of natural water proof asphalt, rolled under tremendous pressure into one solid compact sheet and surfaced on both sides with special moisture proofing—It is the only Wall Board made under this Scientific Moisture Proof Process—

UTILITY WALL BOARD

Takes the place of both lath and plaster—It is easy to put on—Makes a Wonderfully tight smooth wall and ceiling—and lasts as long as the house stands—There is no muss or dirt in putting it on—You don't have to wait for it to dry—It can be decorated in any way that you could decorate a plaster wall—And it costs less than lath and plaster.

We want to send the Booklet and a Free Sample to every Carpenter and Builder in the Country.

Write for Yours

THE HEPPES COMPANY, 4503 Fillmore Street, CHICAGO, ILL.



THE LA PLANT HEAVY HOUSE MOVING TRUCKS

When you get a job with an old building on the lot—move it with the La Plant Trucks to another place—instead of wrecking it. There is more profit in it for you.

La Plant Heavy House Moving Trucks are made of steel—on scientific lines—are interchangeable so they can be worked singly, in pairs or in fours.

Write for catalogue O and see how easy it is to wheel a building a mile in a day—and how little the cost is for La Plant outfit compared with the profit to be made in moving houses instead of wrecking them.

LA PLANT TOOL CO.

1100 E. Nevada St.

Marshalltown, Iowa

When Writing Advertisers Please Mention the American Carpenter and Builder.

MAKE MORE PROFIT On Your Contracts- Begin NOW!

You can increase your profits on each job, get more contracts and have more satisfied customers by buying your lumber and millwork direct from our mills—because you can save from 40% to 60% on your lumber, sash, doors, shingles and general millwork—and get material absolutely guaranteed to be better, grade for grade, than trust or combine standards.

When you buy lumber and millwork from the retail dealer you pay from 40% to 60% more than mill prices—because your material has been handled by the wholesaler, the jobber, the commission man, the salesman and the retailer and each of these men has added his profit, and the retailer has added a profit on his freight charges. These handlings don't improve the quality of your materials—they only add to the price.

Stop giving away part of your profits!

You can buy lumber and millwork direct from our mills at prices which will save you from 40% to 60%. You will get better material than you have been able to get from your dealers. You will get our iron-clad guarantee of satisfaction or your money back.

Twenty to thirty car loads of lumber and millwork are produced each day in our 6 big mills, from the finest old growth yellow fir—cedar, spruce, hemlock and western soft pine, logged in our forest reserves and hauled over our own railways. We carry big stocks and ship all orders complete in 24 to 48 hours. We have no expensive system of yards to maintain, no rehandlings of our stock, no outside profits to pay—and you get the benefit of these savings.

Send us your plans, material lists or house bills and we will send you a guaranteed freight-paid price, laid down at your station, on all the lumber and millwork required for the job.

Send for our big free money saving freight-paid-to-you price list. It will open your eyes to new profits. 45 years in the lumber business—ask any bank in Seattle or Tacoma, Wash.

*SEND THIS
COUPON IN TODAY!*

Hewitt-Lea-Funck Co.
HIGH IN QUALITY
LOW IN PRICE
FIRST SHIPMENT
Seattle, Wash.
623 First Ave.

HEWITT-LEA-FUNCK CO., 623 FIRST AVENUE, SEATTLE, WASH.

I enclose stamps for lumber list quoting prices laid down at my station.
Name _____
Address _____
Occupation _____

NEW CATALOGS RECEIVED

Send for These

A "Red Book" from Merchant & Evans

The Merchant and Evans "Red Book" is the company's 192 page catalog. Every item of their manufacturing is thoroughly covered.

The Merchant and Evans Company of Philadelphia, are makers of many sheet metal specialties such as "Star" ventilators and metal roofing tile and shingles; also tin and terne plates; sheet iron and steel of every variety; solder; special brass and copper work; automatic sprinkler systems, etc., etc.

A copy of the "Red Book" can be had by addressing the Merchant and Evans Company at Philadelphia, Pa.



New Dobe Catalogs Out

F. W. Dobe, chief draftsman, Engineers Equipment Company, Inc., of Chicago, has just issued his 1913 catalogs and circular matter which cover in detail the drafting and designing course he is prepared to give young men desiring to follow that particular line of work.

These new booklets take up and explain very thoroughly the many opportunities for profitable employment competent draftsmen find. The practical side of the drafting course is also fully dealt with.

Any man at all interested in building work, whether particularly contemplating the studying of drafting or not, can gain considerable, both interesting and valuable information from a reading of these 1913 Dobe booklets. A complete set can be had by addressing F. W. Dobe, chief draftsman, Dept. 2669, Engineers Equipment Company, Chicago, Illinois.



American Pulley Catalog Received

Among the interesting 1913 catalogs coming in we note in particular a most attractive 40 page booklet from the American Pulley Company of Philadelphia, Pa., manufacturers of the "American" sash pulleys.

This booklet has been worked out in a thoroughly pleasing manner and illustrates clearly, as well as artistically, and describes the company's plain axle, roller bearing and ball bearing pressed metal sash pulleys.

In addition to a detailed listing of their "American" pulleys the booklet describes and illustrates their "Merit," "Common Sense," "Eagle" and "Top Notch" pulleys.

To builders a booklet of this sort should prove both interesting and helpful. The company make it known they will mail their booklet, together with other circular matter, to all requesting same. Address the American Pulley Company, Philadelphia, Pa.



Sandpaper Samples and Pencil Free

Wausau is one of the best towns in the State of Wisconsin, and every man in it is a Booster. However, this little article is not relative to the town of Wausau, but is about Wausau Brand sandpaper, made by the Wausau Sandpaper Company of this live town.

This concern manufacture a complete line of flint, garnet, and emery paper; in fact all kinds that carpenters and contractors in the United States use. They put quality first. They now want to introduce their brand to every builder in the country. To do this, they will send you a book of sandpaper samples, also a very serviceable carpenter's pencil. It is to your advantage to use their brand of sandpaper, inasmuch as there is no better brand made.

Write and ask them for their packet of samples and the free carpenter's pencil.

PLASTERGON TREATED WOOD FIBRE WALL-BOARD



Every Panel is Guaranteed

You and your customers can't afford to have neat, attractive jobs spoiled by board which did not show defects when put up. You take no chances with Plastergon—it's the only treated wall-board. We guarantee every panel.

It's used in new and old offices, mansions, cottages, factories, etc. Costs less than lath and plaster—lasts longer.

Saves Time—Keeps You Busy

No time lost waiting for plasterers—simply nail to studding, and it's ready for decorating.

We want to co-operate with you—let us suggest how Plastergon can keep you busy all winter. Drop us a line now.

Plastergon Wall Board Co., Dept. A, Tonawanda, N. Y.

BEAVER BOARD



The walls and ceiling of this library in the home of Mr. F. S. Green, Nashville, Tenn., are made entirely of Beaver Board.

Know Beaver Board as Thoroughly as You Know Lumber

It is a pure fibre product, it is used, handled and put up like wood. It is essentially a proposition for carpenters and builders.

It is rapidly displacing lath, plaster and wall-paper for walls and ceilings of every type of building new and remodeled.

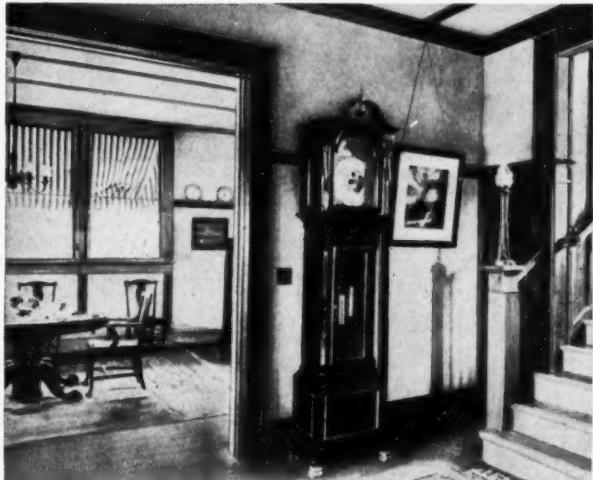
It offers a big and growing field for skilled craftsmanship and business opportunity.

Drop us a line and we will tell you how to start things in your community. Illustrated series of talks on "The ABC of Beaver Board Construction" sent free.



The Beaver Companies

United States: 178 Beaver Road, Buffalo, N. Y.
Canada: 378 Wall St., Beaverville, Ottawa.
Great Britain: 4 Southampton Row, London, W.C.



Your Customer
will be delighted with

Roberds Ideal Wall Board

It makes such a beautiful interior finish at such a reasonable cost. It can be painted, papered or tinted and lasts forever. It never gets shabby, never cracks, peels, chips or warps and is proof against vermin, heat, cold, fire and moisture.

Roberds Ideal Wall Board comes in sheets all ready to be nailed to the studding. Your cheapest man can apply it without previous experience. No muss, no confusion, no delay and no disappointment.

Our special proposition to carpenters and builders
is unusually attractive. Write for it today and we
will send you full particulars, samples, prices, catalog
and testimonials from other contractors.

The Roberds Mfg. Company
100 Railroad Street :: MARION, INDIANA

Any Carpenter or Builder

Will appreciate the advantage to himself of using a wall board which will be referred to as his work—not partly a decorators, but all his. This is the case only, when he uses

BIRD & SON'S NEPONSET

—Oak Finish—

WALL BOARD

For Walls and Ceilings

Both surfaces waterproofed to prevent buckling. Requires no decoration. Just the thing for fixing up an unfinished or plaster-cracked room. Will not absorb paint.

Write for sample

F. W. BIRD & SON

21 River Street :: EAST WALPOLE, MASS.
Established 1795

Canadian Plant, Hamilton, Ontario

BRANCH OFFICES:

New York Washington, D. C. Columbus, Ohio
Chicago, Ill. Portland, Ore. San Francisco, Cal.



When Writing Advertisers Please Mention the American Carpenter and Builder.

Sasgen Derricks on Big Jobs

In the construction of the Creamery Package company building, which is being built at 61-65 West Kinzie Street, Chicago, the contractor—Mr. Bruno Barthel—has used the Sasgen derricks exclusively and he is highly pleased with the results they have given.

The Sasgen brothers have long been building many various types of derricks and they thoroughly know just what is necessary in the design and construction of a derrick to insure that it will give satisfactory service.

At the present time among the various derricks the Sasgen firm are furnishing contractors, can be listed their reinforced circle swing builders' derrick; their light weight champion circle swing builders' derrick; their circle swing wheelbarrow derrick; their circle swing double boom wheelbarrow derrick; their stiff leg derrick and their circle swing derrick for loading and unloading cars and wagons. They also make setter and pole derricks, single and double drum geared winches and other builders' equipment.

For their catalogs address them—Sasgen Bros., 2053-57 Racine Ave., Chicago.

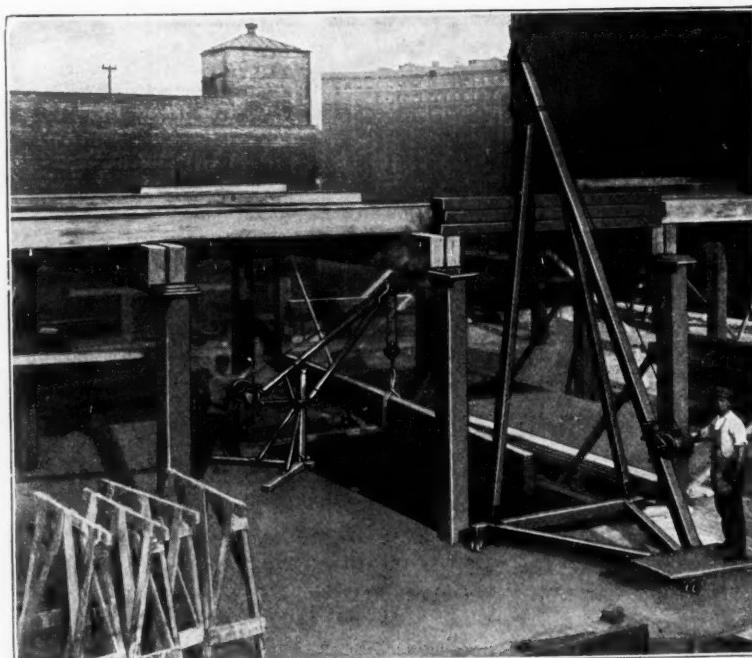


Reduction in Price

The Joseph Dixon Crucible Company, of Jersey City, make the interesting announcement that the selling price of their Silica-Graphite "One Quality Only" Paint is reduced. They say they make this reduction because the decrease in the price of linseed oil, which is used as the vehicle, enables them

to do it, and because it is their aim at all times to give their customers any benefit possible in reduction of price of materials.

This well-known paint which has been the standard for nearly 50 years with leading railroads and manufacturing plants as a maintenance paint, is a long service protector of all exposed steel and metal surfaces.



Sasgen Derricks on Big Chicago Job



Not a Joint, Seam, Crack or Pore in J-M Sanitor Seats

They are moulded in one solid piece under heavy hydraulic pressure from specially treated indurated fibre. There are no sections to come apart

—no bolts, braces, screws or nails to work loose—no pores, cracks or crevices to harbor disease germs.

They cannot crack, split or warp. Seats made of this material have been in continuous service for more than twenty years, and are still in good condition.

Are furnished complete with fittings in mahogany, oak and white enamel finishes. Only an expert can detect them from wood.

Write Nearest Branch for Booklet

H. W. JOHNS-MANVILLE CO.

MANUFACTURERS OF ASBESTOS AND MAGNEZIA PRODUCTS

Albany	Boston	Cleveland	Duluth	Kansas City	Milwaukee	New York	Pittsburgh	St. Paul	Syracuse
Atlanta	Buffalo	Dallas	Houghton	Los Angeles	Minneapolis	Oklahoma City	Portland, Ore.	San Francisco	Washington
Baltimore	Chicago	Denver	Houston	Louisville	Newark, N. J.	Omaha	Rochester	Seattle	Wilkes-Barre
Birmingham	Cincinnati	Detroit	Indianapolis	Memphis	New Orleans	Philadelphia	St. Louis		

ASBESTOS

ASBESTOS ROOFINGS, PACKINGS ELECTRICAL SUPPLIES, ETC.

Toronto, Ont.
Montreal, Que.

For Canada—THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED
Winnipeg, Man.

Vancouver, B. C.

1210

When Writing Advertisers Please Mention the American Carpenter and Builder.

**Stanley's
Ball Bearing
BUTTS
INSURE
PERFECTLY HUNG DOORS**

Friction is eliminated by the steel bearings, and the door swings smoothly and softly without creaking or binding. These butts have **NON-RISING PINS** which will not work out of the joint. Write for artistic and instructive booklet "Properly Hung Doors."

THE STANLEY WORKS
Department "A" NEW BRITAIN, CONN.

SARGENT
LOCKS

The Sign of Quality
SARGENT & COMPANY
New Haven, Conn.
New York Boston Philadelphia Chicago

**This HYNALER HAMMER
ought to Be One of YOUR Tools**

This Hynaler Hammer will hold a nail securely for high, low or far across nailing where you can not reach with two hands. This affords big protection for you as trying to reach with both hands is dangerous.

This claw will pull a nail through the wood, head and all, like other good up-to-date claw hammers.

This is a hammer you can always make handy use of and every carpenter and mechanic should have one of these Hynalers in his kit.

The novel and helpful features of the Hynaler sells it to experienced men who already have several hammers. They know it will pay them to have a Hynaler. Their friends see them and get Hynalers, too. This is not speculation on our part—it is our actual experience.

We guarantee these high grade, forged steel, Hynaler hammers. You can get a Hynaler from your dealer—and you want to be sure and get one right away. Ask him about them—if by any possible chance he has not got them fill out and send us in this coupon with 75 cents and we'll send you one via parcels post.

Be sure now and ask your dealer about a Hynaler or mail us the coupon with only 75c. Catalogs and other details upon request.

Double Claw Hammer Co. 453 Broadway, BROOKLYN, N. Y.

Clip and Send in this Coupon
Double Claw Hammer Co.,
Brooklyn, N. Y.
Gentlemen: My
dealer...
can not supply
me with a Hynal-
er Hammer. For en-
closed 75 cents send me
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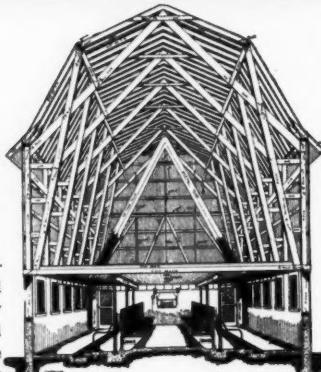
Helpful Ideas on Dairy Barn Building FREE!

If you learn more about the new-est, best, most economical and most sanitary methods of Dairy Barn Construction — you will make more money. Our free book "Helpful Hints to Dairy Barn Builders" tells about proved principles that it will pay you to know about. It tells facts about plank frames, King system of ventilation; proper width and arrangement; lighting; stable floors; site; size; appearance; design; drainage; and sanitary barn equipment with floor plans.



Special Blue Print Offer

We have complete blue prints, specifications, floor plans and lumber bills for several different types and sizes of modern dairy barns. Ask about them. Also ask how to get the free help of our Architectural Department.



James Mfg. Co.

8575 Cane Street

FT. ATKINSON - WIS.



Next Time You Figure On A Garage Job

suggest "Pruden System" Fireproof Construction. It's much to your advantage. These buildings come complete, ready for erection. You set up in few hours and make a good profit. People in your town are buying cars every month and are undecided how to care for their cars. They know about "Pruden System" Construction through our advertising. Get after them and sell them a "Pruden Garage." Get posted at once regarding

"PRUDEN SYSTEM" Construction

Our Buildings are shipped complete in units of heavily galvanized steel. Units interlock by our patent system and support each other. No framing required. Make a building as strong, durable and handsome as masonry, at far less expense. Big stock always on hand. Orders shipped immediately.

Write for Catalog and special terms to contractors.

Metal Shelter Company

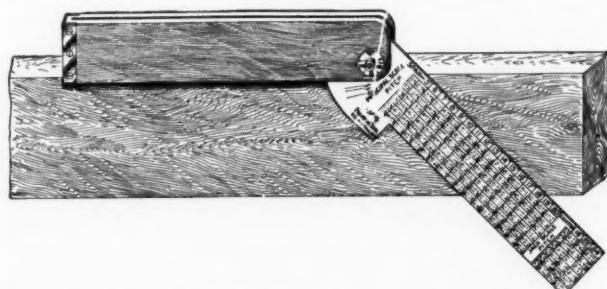
9-90 W. Water St., ST. PAUL, MINN.

Patentees and Sole Mfrs.
Pruden System Buildings.

When Writing Advertisers Please Mention the American Carpenter and Builder.

Roof Framing Made Easy

Laying out a roof is not a simple matter. Many carpenters are saving much time and worry in laying out their roofs by



Topp's Roof Framing Tool for Marking Rafter Cuts

using Topp's Roof Framing Tool, manufactured by G. A. Topp & Co., Indianapolis, Ind.

This accurate device gives the pitches and correct angles for all rafter cuts as well as their lengths in feet and inches. When folded it is only 12½ inches long, a convenient size for any carpenter's kit.

The accompanying illustration shows the tool as applied to rafter. Every carpenter should see it at his hardware dealer's. If he hasn't it, write to the manufacturers for a descriptive circular.

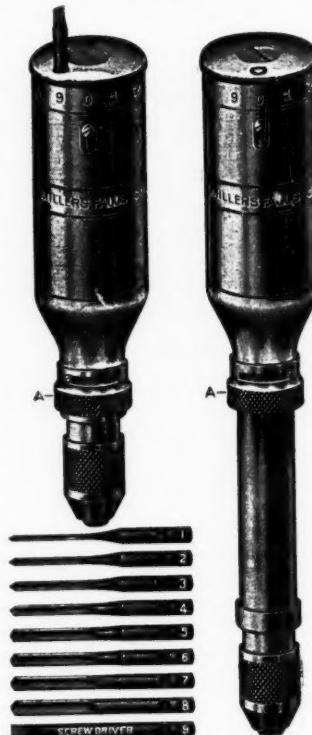
Automatic Star Pocket Borer

This compact boring tool will be found very convenient, as when compressed, it may very easily be carried in the pocket. It possesses all the good characteristics of the regular borers in addition to this feature of compactness. The magazine handle contains in cells eight drill points ranging size from 1/16 inch to 11/64 inch, and numbered from 1 to 8. Cell No. 9 contains a small screw driver which may be used in the borer. This, however, should only be used when the tool is compressed, or, in other words, when the plunger is forced back into the handle and secured there.

To compress or close the borer, press the end of the chuck against some hard substance that will not mar, until the small projecting pin on the side near the chuck slips underneath the slotted knurled shell "A," then turn the shell "A" to the right, and the borer will remain compressed in pocket form. To release the spiral, turn the shell "A" to the left and the spiral will spring out.

The magazine handle may be operated by placing the opening in the top of cap over the number of the drill point desired, and then letting the drill point drop out.

This tool is manufactured by the Millers Falls Company, 28 Warren Street, New York, and Millers Falls, Mass., U. S. A. who will send full particulars to any of our readers.



Millers Falls Co. Automatic Borer

MAJESTIC
FOUNDATION
COAL CHUTE

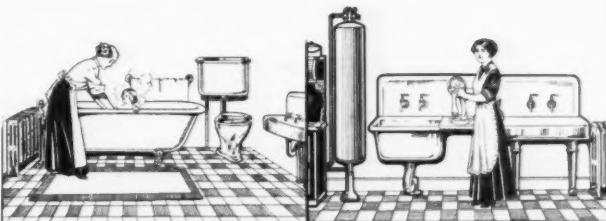
Protects the building just where most needed — above the opening.

The heavy steel hopper catches all the coal.

When not in use, the hopper lies in the bottom of the chute body. The door locks automatically either open or closed. Strictly burglar-proof. With $\frac{1}{8}$ -inch wire glass or steel panel in door.

Write for circular and address of nearest dealer.

MAJESTIC FURNACE CO. :
995 to 1001 Sixth Avenue Huntington, Indiana



How to Install Your Own—Plumbing and Heating Systems

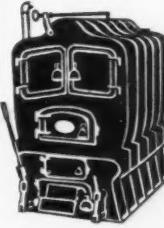
Builders, contractors and home owners—my big new book tells you how to install modern heating plant or your own water system. New Money-saving method. Steam or hot water heating plants. You can easily install one of my modern heating plants from the complete simplified plans and instructions furnished to you free. The saving is enormous. Write today for my great free book.

How to Save on All Material

My method for saving on all materials is a revelation even to the most experienced contractors and builders. Get this free book and see for yourself. My amazing low prices will prove to you my method is a blessing to every builder and home owner.

Gibbons New Method

Every home, even the smallest cottage, can now have running water or a heating plant. Churches, halls and schools can have these improvements at a low cost. My free book explains all. Write for it today.



Book Free

My new book gives you greater buying power than your local dealer. Thousands of things illustrated and priced. Gasoline engines, hydraulic rams, pumps, pipes, valves, electric lighting plants, acetylene lighting plants, all accessories, everything guaranteed. You certainly ought to have this book. Send your name and get it post-paid free. Send today.

M. J. GIBBONS - Dept. 2415 - DAYTON, OHIO

FIFTY-EIGHT YEARS "WOLFF QUALITY"

For every public and private sanitary service, Wolff's goods will prove a highly satisfactory choice. This means a great deal to your business, since by dealing with Wolff, you have immediate command of every kind of

sanitary supply which any ordinary or special problem may require.

We have successfully solved these problems in most of the buildings along the world famous boulevard, Michigan Ave., in Chicago and the goods are giving universal satisfaction.

ESTABLISHED 1855

L. Wolff Manufacturing Co.

PLUMBING GOODS EXCLUSIVELY
The only complete line made by any one firm

General Offices . . . 601-627 W. Lake St.
Showrooms . . . 111 N. Dearborn St.

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SALT LAKE CITY, UTAH

Whether You Build of Wood or Concrete You Need This Three-Man "AMERICAN" CONTRACTORS' PORTABLE WOOD-WORKER



With this machine you can not only saw, match, chamfer and bore lumber for concrete forms but, if necessary, you can handle wood finish and trim, as well.

In the "American" Wood-worker you get three distinct machines in one—each capable of a great variety of work—each independent of the others, so that each can be used without interfering with the others.

Note that last particularly—the "American" is a three-man machine, with three times the capacity and usefulness of any mere saw bench.

On the table you have a rip, cut-off and mitre saw—a dado and gaining machine—a grooving machine and a rabbetter.

At one side is a 6-inch jointer, planer, matcher and moulder. And a sander drum, disk sander and emery wheel are also provided.

The boring table has 6-inch feed and 3½-inch vertical adjustment. It is used also as a rest in sanding or grinding.

And all these functions are combined in a solid, compact, durable machine with self-contained power (engine or motor), to be moved anywhere, ready for work at a moment's notice, right on the job. Shall we send the circular?

American Saw Mill Machinery Co.

82 Main St.
HACKETTSTOWN, N. J.

1655 Hudson Terminal
NEW YORK CITY

When Writing Advertisers Please Mention the American Carpenter and Builder.

NEW CATALOGS RECEIVED

Write for These

A Booklet on Carborundum Products

Garnet, aloxite and carborundum are fully detailed in the new catalog issued by the Carborundum Company of Niagara Falls, New York, and entitled "Carborundum Products for the Woodworking Trades."

The process through which the garnet used by this company in the manufacture of its carborundum brand garnet paper, cloth and combination paper cloth is subjected from the time it is taken from the earth until it is coated on the paper or cloth and ready for use are interestingly and instructively explained. So also are aloxite, the new steel cutting abrasive, and carborundum, the hardest known abrasive.

The many various items manufactured from these three materials are illustrated, described and explained.

All woodworkers and users of tools can undoubtedly find much valuable information in this booklet. A copy will be sent direct, upon request, by the Carborundum Company of Niagara Falls, New York.



Dennis Specialties Catalog

A 1913 catalog has been issued by the W. J. Dennis Company of Chicago. It is a 28 page booklet covering fully through illustration and description the entire Dennis line of builders' specialties with which the big majority of contractors and carpenters are familiar.

The Dennis motto, "no order too large for us to execute or too small for us to appreciate," is always observed and the many Dennis customers are the best evidence that this forceful bit of logic is a great trade winner.

Among this company's line are the Dennis "Clincher" Felt weather stripping, the Dennis screen moulding, the Dennis E-Z way storm sash, screen and basement windows and certain door and window hardware specialties.

Any AMERICAN CARPENTER AND BUILDER reader can obtain the Dennis catalog by writing the company—W. J. Dennis & Company, 2222-26 W. Lake Street, Chicago, Ill., and ask for booklet number 340.



New Edition of Trus-Con Hand Book

The Trussed Concrete Steel Company of Detroit, Michigan, have recently issued a second edition of the Trus-Con complete hand book on waterproofings, dampproofings and technical paints.

This book is a complete revision of the previous edition, and contains many important additions and improvements. A number of new specifications treat of special conditions. Many illustrations of important installations and applications have been added.

The subject matter on Trus-Con waterproofing paste concentrated is practically all new, and contains comparative absorption tests on this product. A section has been added on the texture of cement floors, illustrated description of, and tables on, Trus-Con ironite flooring is also shown. Tables of water pressure and on concrete and mortar mixtures are included.

This hand book is very valuable to anyone interested in waterproofing, dampproofing or finishing problems. The previous edition has been very favorably commented upon by engineers, architects and contractors, and is at the present time used as an auxiliary text-book in a number of engineering colleges.

A copy of the hand book may be had by writing the Trussed Concrete Steel Company, 344 Trussed Concrete Bldg., Detroit, Michigan.

Granite
TRADE MARK
ROOFING

SIX INCH SOLID LAP

SAFEGUARD

A six-inch lap is better than a three-inch lap. It gives better protection against leaks and permits nailing down on the under sheet only, so that no nail heads appear on the surface. Otherwise this is the same Granite Roofing that we have sold for 28 years for use on great factories. It is immune from damage by coal, smoke or cinders, and it has a sea grit surface which makes painting entirely needless. Behind it is a reputation that has *Passed the Quarter Century Mark.*

EASTERN GRANITE ROOFING CO.
19 Battery Place, New York
Chicago Pittsburgh

Residence of Andrew Nelson, Duluth, Minn. Roofed with Asbestos "Century" Shingles by Kelley & Lignell, Architects; Otto Johnson, Contractor; and A. H. Krieger Co., Roofing Contractors—all of Duluth. Reproduced from an Artist's Drawing.

Asbestos "Century" Shingles
"The Roof that Outlives the Building"

THE demand for Asbestos "Century" Shingles is growing enormously. Two Hundred Million of these Shingles are sold every year—the total number in use reaches very well toward the Two Billion mark. You will find Asbestos "Century" Shingles on every type of building in America and Europe. They are the first practical lightweight roofing of reinforced concrete—positively fireproof—need no painting or repairs. Numerous shapes and sizes. Four colors—Newport Gray (silver gray), Slate (blue black), Indian Red and Veneered Red (red face with gray back). Write our nearest Branch Office for trade prices and terms, and Booklet, "Everlasting 1913."

Keasbey & Mattison Company, Factors
Ambler, Pennsylvania
Branch Offices in Principal Cities of the United States

MONTROSS METAL SHINGLES



A New Long Service Record

There are few satisfactory materials for roofing. Check them off in your mind! None compares to a good tin roof—cost, wear, lightness, efficiency, durability and appearance considered.

Montross Metal Shingles (The Pioneers) have been in actual service over 32 years, and look good for 32 years more. They are made of the same splendid quality tin our grandfathers used to make the roofs that have never been surpassed—we employ a special analysis for exterior service.

The perfect scientific construction of Montross Metal Shingles fully provides for expansion of the metal, while the large anti-capillary over-lap and side-lock does away with all "water traps" so destructive to metal roofs.

Water drains off all parts of the roof quickly: leaves no moisture to work decay. This insures Montross Shingles giving fully 100 per cent longer service than a roof of faulty construction. All nail heads are covered; this prevents water filtering through to destroy sheathing.

Let us send our catalog and explain Montross Shingles fully. Live agents wanted for exclusive territory.

Montross Metal Shingle Co., 2nd and Erie Sts., Camden, N. J.

Your Customers Want— Artistic Up-to-Date Designs

AND

YOU Want A Price That Will Give YOU Big Profits



Get our ceiling catalog DA and discount and you will have this combination that will satisfy both YOUR CUSTOMERS and YOURSELF



The Kanneberg Roofing & Ceiling Co.

:: ::

Canton, Ohio

When Writing Advertisers Please Mention the American Carpenter and Builder.

Gibbons' New Catalog

M. J. Gibbons of Dayton, Ohio, who has achieved such remarkable success in furnishing rural and city homes with modern heating, lighting and plumbing improvements, has recently issued an elaborate new catalog which contains a wonderful amount of useful and valuable information for every home owner, builder and contractor.

This book which demonstrates the use of the practical Gibbons method is particularly valuable for the average home owner. The information and instructions in this new catalog were prepared in a special manner for the ordinary man who knows little or nothing about the installation of modern building improvements. Gibbons' book, is, without doubt, a marvelous achievement because it enables the average person to be his own steam fitter electrician and plumber. With the aid of Gibbons' big book, as it is popularly termed, any man can furnish his home with all modern improvements without going to the heavy cost of skilled labor. One does not have to have any particular sort of knowledge in order to understand and make use of the Gibbons method as demonstrated in his new catalog. This fact, perhaps more than any other, has been responsible for the notable success of Mr. Gibbons' method.

The new book shows that Gibbons' method is not confined to any particular class of people. It shows too that any home or building from the greatest institution to the smallest cottage can be furnished with any modern improvement in the way of lighting, heating, plumbing, etc., under the Gibbons practical method. It is true that Gibbons' book has come as a blessing into many homes of moderate means. But it is also true that wealthy people have been glad to take advantage of this money-saving and perfectly satisfactory method of installing all modern improvements and luxuries.

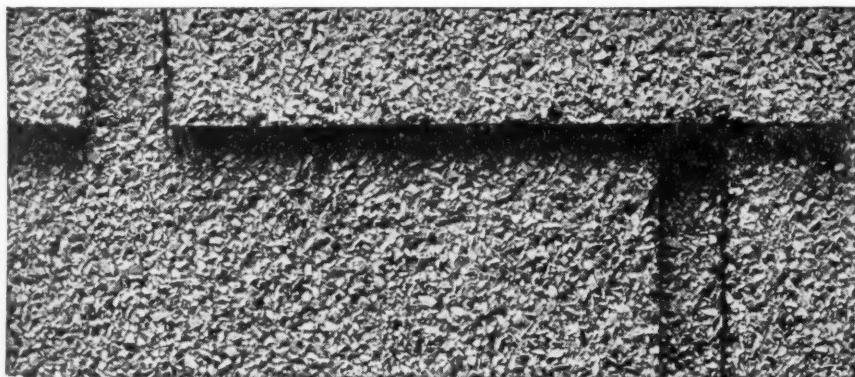
For the property owner, in the city or country, Gibbons' book is one of the most valuable catalogs ever issued. With its aid he can increase the value of his property and save money in doing it. This catalog not only saves all cost of skilled labor but it enables property owners to make a big saving on material. With Gibbons' catalog in his possession a man has a most complete stock of improvements and accessories to choose from. Thousands of articles useful to the home owner, builder and contractor are illustrated and priced in its pages. Like many other extraordinary things Gibbons catalog has to be actually seen to be appreciated.

This new book will be distributed widely throughout this country. It ought to be in the hands of every property owner. Besides the money that it saves it gives many homes the comfort and convenience of modern improvements which they would be forced to forego if it were not for the high economy value of Gibbons' new catalog.

Gibbons catalog proves that it gives the consumer greater buying power than his local dealer. This fact alone ought to create a tremendous demand for the book. Another important fact you will find in Gibbons' new book is that it guarantees every bit of material. Thus the person who buys through this medium is protected as to wear, quality and satisfaction.

It isn't possible to give in this brief space an adequate idea the number of the contents. Among the thousands of things illustrated and priced are gasoline engines, hydraulic rams, pumps, pipes, valves, electric lighting plants, acetylene lighting plants, and all accessories.

Every home owner, builder, carpenter should get a copy of Gibbons catalog without delay. It will prove its own merits upon examination. The book will be mailed free to anybody upon request. Send name and address to M. J. Gibbons, Dayton, Ohio.



This Cut Shows the surface of Flex-a-tile Shingles—Beautiful, Convenient, Durable.

Here's a solid Asphalt Shingle, with a Chipped Slate Surface that is a wonder—

It is beautifully colored—The Natural Color of the Slate—Deep red or greenish gray—And it is as durable as Tiling.

FLEX-A-TILE ASPHALT SHINGLES

Are not only very beautiful and durable—but are easy to lay—and adapt themselves to any style of construction—They are practically fire proof and are thorough protection against most severe weather conditions—
Flex-A-Tile comes in both shingle and roll form.

Write Today for a Free Sample and the Book.

The Heppes Company

1010 Forty Fifth St.
CHICAGO, ILL.



CANTON

Art Metal Co. Ceilings

Are the kind that have the famous Punched Nail Holes and Repressed Beads which save so much time on the job and increase your profits

Perfect Fitting Plates Artistic Designs

Write today for our mammoth Art Metal book just fresh from the press for further information

THE CANTON Art Metal Co.

"Quality Products"

CANTON : : OHIO

Eastern Office and Wareroom

THE CANTON STEEL CEILING CO.

11th Ave. and W. 25th St.
NEW YORK CITY

Western Branch

THE CANTON STEEL CEILING CO.

206 S. 3rd St.

MINNEAPOLIS, MINN.



Makes The Most Practical Walls

COMPO-BOARD walls and ceilings are ideal from every standpoint.

Strength. They have actually held buildings together in California earthquakes.

Durability. Many still in good condition after 13 years' service.

Fire Resisting. They will hold a fire in check long after a plaster wall would crumble.

Cold and Heat Resisting. Absolutely air-tight; Compo-Board walls as far North as Alaska are known to keep homes comfortable.

Damp Proof. Keep homes dry and sanitary.

Beauty. Their smooth surface is easily and artistically decorated by any method; don't have to be paneled unless desired.

Economy. Cheaper than lath and plaster in the long run.

Saves Time in Building—from 15 to 30 days—no waiting for plaster to dry, no muss to clean up—a more satisfactory job—a pleased client.

Compo-Board is sold in strips four feet wide and one to eighteen feet long, by dealers in most every town.

Write for sample and booklets and learn all about the "modern wall lining."

Northwestern Compo-Board Co.

5777 Lyndale Avenue No.

Minneapolis, Minn.



The above cut shows a corner in a display room finished with

DECO VENEER

It is not an imitation. It is made of natural wood of the best quality of both foreign and domestic timbers.

Panels furnished either finished or unfinished. Unfinished panels are sanded ready for the finish.

For wainscoting and similar construction, panels with strips, caps and base are furnished ready for installation. No mill work necessary.

Deco is used for wainscoting, window backgrounds, bank and bar fixtures, and all interior decorations where ply veneers are used.

Contractors and builders have found Deco a most satisfactory substitute for old style ply veneers and more economical.

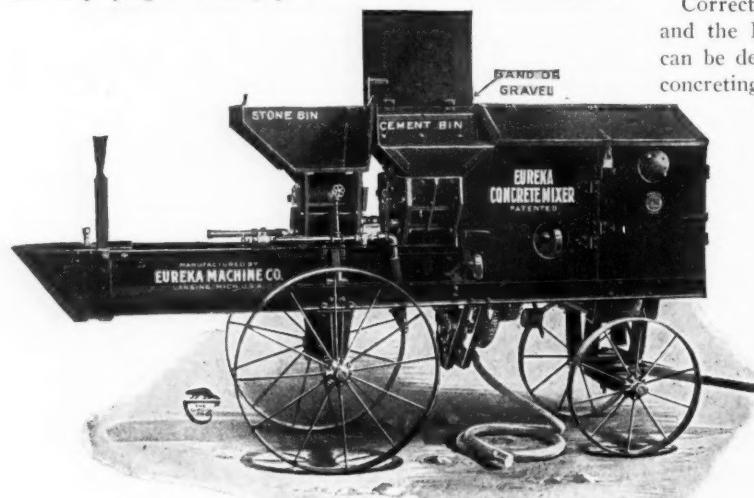
We want agents in every city and town. Write for our agency proposition.

Illustrated catalog sent on request.

Deco Manufacturing Company
Indianapolis, Indiana

Eureka Mixer Widely Known

With the wonderful development of the concrete industry the importance of perfect mixing is coming to be appreciated and is playing a leading part in the forward movement of



A Popular Size Eureka Mixer

this great building material.

The Eureka mixers, manufactured by the Eureka Machine Company, at Lansing, Michigan, have been widely used and approved in all sections of the country on concrete work of all kinds. The materials are shoveled directly from the pile into the mixer from one or both sides of the machine.

There is no filling of wheelbarrows or wheeling, no men getting in each others way—and no waiting.

The portability of the machine permits it to be kept close

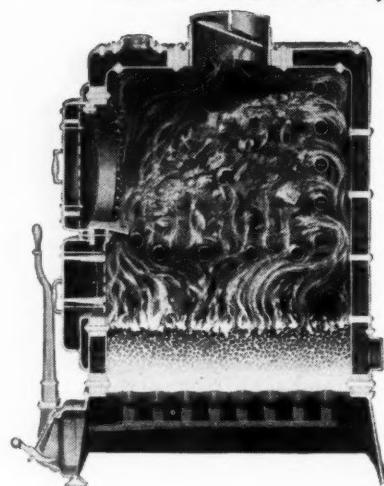
to the base of operations—a great advantage on any job. The crew can move it quickly to any point on the work. This eliminates the cost of one handling of the materials. No small item to any contractor.

Correct proportioning is as essential as perfect mixing, and the Eureka has a simple, automatic feed regulator that can be depended upon for accurate, reliable service under all concreting conditions. The materials are mechanically proportioned. It is only necessary to keep the hoppers supplied with materials. The mixer measures them automatically in any proportion wanted, mixes them thoroughly, dry, then thoroughly, wet, and discharges into the barrows or forms.

The period of mixing is automatically timed. Every particle of cement, sand, and stone is mixed the same length of time before it can possibly be discharged. The special plow-shaped blades cut through the materials from the bottom, lift and pour them over and through each other. This process of shoveling, pouring, and cutting through continues until the materials have passed at least forty mixing operations, delivering a perfectly mixed and uniform product.

The Eureka mixer is made in various sizes of from 5 to 35 cubic yards per hour. The manufacturers of this machine have a plan of co-operating with the user to the fullest extent. Their engineers are constantly in touch with the new methods of handling concrete mixing operations, and will be glad to advise you how you can use the Eureka mixer at a money-saving advantage on your work. An attractive catalog can be had upon application. Write the Eureka Machine Company, Lansing, Michigan.

WHY THE KEWANEE GARBAGE BURNING WATER HEATER IS A MONEY, TIME, HEALTH AND LIFE SAVER



As a **Money Saver** it transforms your Garbage of all sorts into valuable fuel.

It reduces your fuel bill 30 to 40 per cent.

It annihilates your cartage charges.

It gives you oceans of HOT water in apartment houses at 2 to 5 cents per family per day.

In Hotels and Hospitals these advantages are greatly emphasized.

As a **Time Saver** it keeps the storage of hot water twenty-four hours round, and one never has to wait.

It responds more quickly to fresh firing than any Water Heater extant.

As a **Health Saver** it instantly removes the source of foul stenches, of noisome flies and venomous germs.

It makes the disease-breeding garbage can a thing of the past.

As a **Life Saver** it makes impossible infectious contamination to every member of the family, father, mother and the babies, from the Disease-laden flies, which no longer infest your kitchen, the Dining room and the Nursery.

The family pests need no longer be feared as disease carriers.

For Valuable Information Write to

KEWANEE BOILER COMPANY
KEWANEE, ILLINOIS

MAKERS OF THE INFALLIBLE KEWANEE FIRE-BOX AND SMOKELESS BOILERS

CHICAGO

NEW YORK

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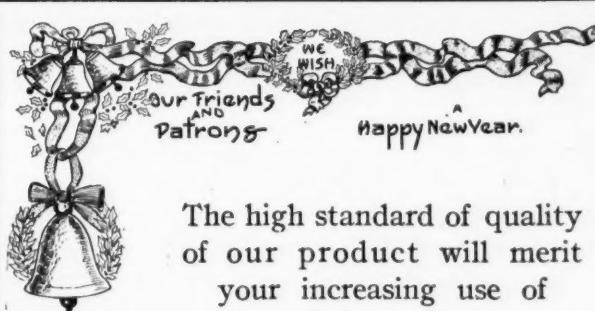
KANSAS CITY

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LOS ANGELES

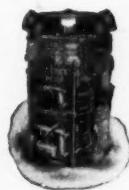
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The high standard of quality
of our product will merit
your increasing use of

Gilt Edge



Furnaces
and
Boilers



Manufactured by

R. J. SCHWAB & SONS CO.
Clinton Park Reed Sts.
Milwaukee, Wis.

BUY FROM THE MAKER



We have made and sold thousands of steel furnaces in Chicago, and we have sold them everywhere, by mail, direct to contractors, builders and house owners, all over the country, from Maine to China. We don't offer them through dealers, for the DIRECT DEAL with the consumer is the most satisfactory to all concerned. It means BETTER SERVICE—because of the direct interest of the maker in each contract—and it means BETTER PRICES, for the middlemen's profits are cut out.

In buying the Hess Furnace, you needn't have faith. You can buy it now, on trial, and test it before January 1st, 1913. We will deliver it at your station, with all

pipes and registers—freight prepaid.

Set it up and use it. If you're not pleased; not sure you have big value for the price—send it back to us—we paying return charges—and we won't claim one cent from you.

We don't offer you credit, however, for we require the price to be deposited with your local banker when you receive the goods. He holds it till the test is made, subject to the conditions outlined above, and gives it to you or to us, according to the result of the test. You take no risk, and you will save money.

Our furnace is made of steel, EVERY SEAM WELDED, and therefore permanently gas, dust, and smoke-tight. Made in six sizes, and burns any fuel. There is no furnace, better, at any price.

Our 48-page booklet on furnace heating is free. Ask for one. It will give you a lot of useful information on heating.

Hess Warming & Ventilating Co.
920 Tacoma Bldg. - Chicago
We make these beautiful white steel medicine cabinets, cheaper than wood.

Cut YOUR Heat Cost $\frac{1}{2}$ to $\frac{2}{3}$
GET THE PECK WILLIAMSON
UNDERFEED FURNACE OR BOILER

WHY pay two or three times the money
really necessary for your heat? The
Underfeed cuts hard or soft coal bills
one-half to two-thirds every winter, insuring
heat comfort ALWAYS.

**Carpenters and Builders, you can increase
the SELLING or RENTING values of
buildings you erect.**

You are just as vitally interested in the quickly solved problem of greater heat economy as any of the millions of magazine and periodical readers who will see these forceful truths driven home in January publications of national circulation:

Last Winter, with its long, zero blasts, Underfeed results everywhere were the same—adequate, clean, even heat at a saving of one-half to two-thirds usual cost.

THE PECK Williamson Underfeed FURNACES BOILERS

Write for FREE book which clearly explains the common-sense method of Underfeed coal-burning. In both Underfeed Furnaces and Boilers, results are the same.

Slack or Pea or Buckwheat coal, costing from \$1.50 to \$5.00 less per ton than higher grades is pumped up into the firepot, underneath the fire, and like a candle, burns from top down.

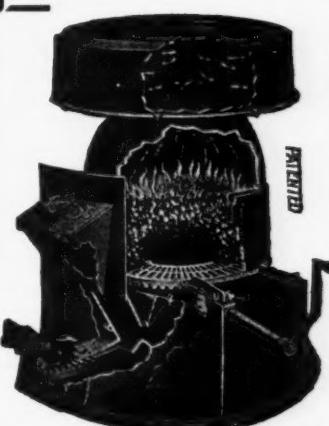
Smoke and gases (25 to 50 per cent heat value in coal) pass up through the fire, are consumed and converted into useful heat; whereas in topfeed heaters, smoke and gases go to waste—up the chimney.

SELF-CLEANING FEATURE

Accumulated soot one-fourth inch thick on furnace or boiler heating surfaces increases fuel cost one-third.

Since the Underfeed consumes smoke, castings are free from layers of heat insulating soot. The fireglow is upon clean metal, responsive to heat; whereas in topfeeds the "fireshine" is upon deadened heating surfaces, coated over with soot and grime-insulation. Topfeeds, therefore, require frequent, troublesome cleaning; Underfeeds are self-cleaning.

From every angle—feeding, regulating and cleaning—the Underfeed requires least attention.



Underfeed heaters—Furnaces or Boilers—are adapted for large or small homes, apartment houses, halls, churches, theaters, schools, etc. Installed in unit or battery form.

Send us your building plans and we will furnish free engineering plans, actual cost of installation and tell you where you can get your Underfeed.

Mr. Carpenter and Mr. Builder, it will add to your reputation by specifying the Underfeed.

Write TODAY for Free Booklet

THE PECK WILLIAMSON CO.
436 West Fifth Av. - CINCINNATI, OHIO

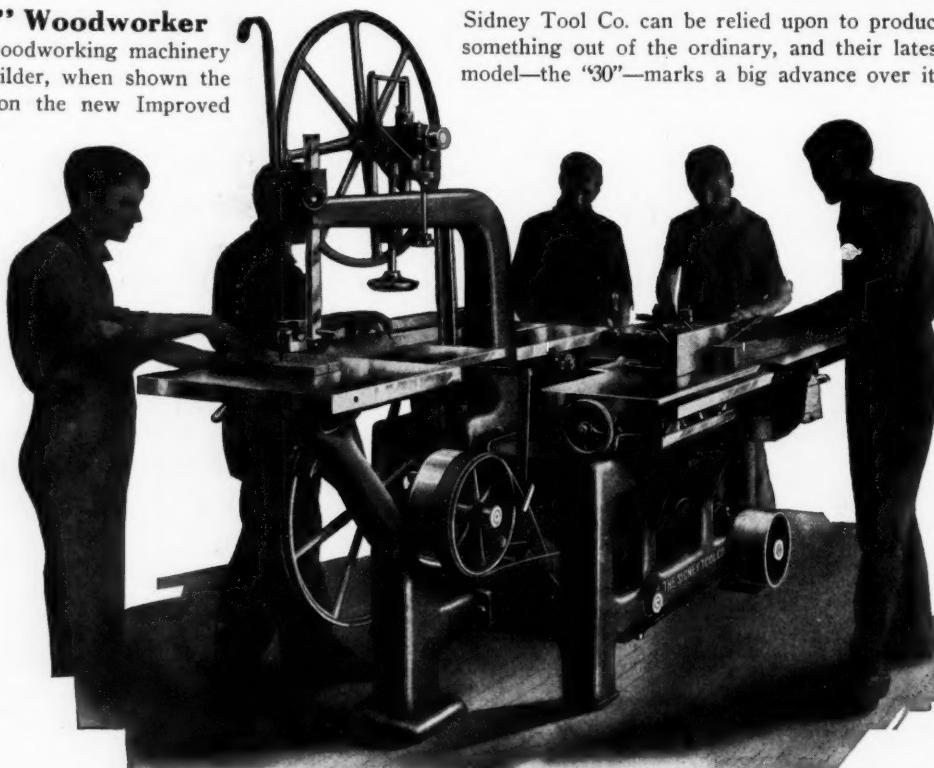
New Model "Famous" Woodworker

"The eighth wonder of the woodworking machinery world," said one enthusiastic builder, when shown the photographs and specifications on the new Improved Famous "30" universal woodworker. And no better fitting or more timely illustration is possible. The small contractor and the average carpenter and builder of today are pretty well posted on the relative merits of the universal woodworker compared with individual machines, and almost unanimously approve the former because of its conveniences, compactness and comparatively low cost.

No carpenter wants to invest in a dozen or more pieces of machinery when the same result can be obtained by the installation of a single machine that does as many as sixteen different kinds of work. Many men in the building trade would prefer to do their own millwork instead of paying high planing mill charges, but have been afraid to do so because of the high investment necessary to install a sufficient variety of machinery. It is these people who will particularly benefit by the Famous universal woodworker.

As the pioneer builders of universal woodworkers, the

Sidney Tool Co. can be relied upon to produce something out of the ordinary, and their latest model—the "30"—marks a big advance over its



Five Men Doing Five Different Kinds of Work on Famous "30" Universal Woodworker

predecessors. Over 1300 of their previous models are in use, which is a pretty sure indication of how popular the Famous line is.

Sixteen different kinds of work can be done on the Famous



KNO-BURN "Keyed" It On

The channel iron bent under the load; but the plaster stayed intact because it was laid on KNO-BURN EXPANDED METAL LATH with the Mesh that makes the Plaster Stick.

There are other reasons why you ought to use "KNO-BURN." It is not corrugated or ribbed. It is rigid on wide spacing. It is manufactured from U. S. Standard Gauge Sheets, the thickest of sheet metal gauges. It is shipped plain, coated with electrolysis proof carbon paint, or galvanized after expansion with prime Western Spelter.

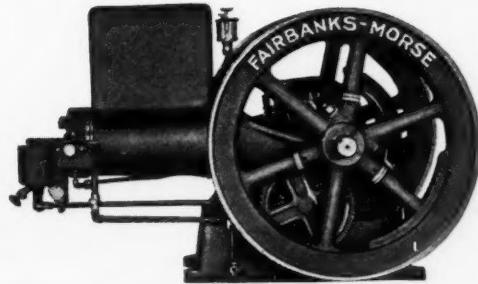
Write for Booklet 33 describing KNO-BURN METAL LATH in detail. We will also put you on the mailing list for "Expanded Metal Construction," our Monthly Bulletin of Metal Lath and Concrete Reinforcement facts.

**IMPORTANT—We can ship KNO-BURN
within 24 hours of receipt of your order.**

North Western Expanded Metal Co.
903 OLD COLONY BUILDING, CHICAGO

When Writing Advertisers Please Mention the American Carpenter and Builder.

Jack of all Trades Engines



Furnish cheap and reliable power for mill, shop and construction work. Built and guaranteed by the oldest manufacturers of internal combustion engines in the United States.

Run on Kerosene or Gasoline

All parts easily accessible. Cylinders, cylinder heads and bases all separate castings. Interchangeable parts. Make and break ignition. Removable crank bearing liners.

2, 4 and 6 H. P. Horizontals.

Also 2, 3, 4 and 6 H. P. Verticals.

1. H. P. Gasoline Engine (Jack Junior).

Write for our Catalog No. 1409WQ

Fairbanks, Morse & Co.

Wabash Av. & Eldredge Place CHICAGO, ILL.

Hoists, Diaphragm Trench Pumps, Water Systems, Electric Light Plants, Electric Motors, Windmills, Eclipse Roofing

The Ford Bit is a bit Better Bit

Specifications of the Ford Single lip Bit



Worm—12 single thread, bores 12 turns to the inch. Head—Single extension lip. Spur—made extra high to give extra wear. Material—highest grade crucible steel of special formula. Temper—special process to give uniformity. Finish—highly polished, then dipped in rust proof solution. Forged, not twisted; forging makes grain finer, giving added strength and toughness to steel.

10 Reasons Why

the FORD Single lip Bit is superior to any regular Double lip bit. 1. Bores end grain. 2. Screw draws in on any wood. 3. Bores considerably faster. 4. Bores 40 per cent easier. 5. Cuts out with practically no splintering. 6. Easier to sharpen. 7. Cuts clean the toughest knots. 8. More room for clearance. 9. Warranted not to turn off against knots or across season cracks. 10. Adapted for the roughest as well as the finest, fussiest boring.

May we send circulars and memo book? Free if you address Dept. 1g.

Ford Auger Bit Co.

Holyoke : : Mass.

GOING TO BUILD?

WETHER you expect to build or make repairs, now or later, by all means send for our magnificent new Catalog of Millwork and Building Material. It is the biggest, best and most complete book of the kind ever published. 3,000 superb illustrations and 8,000 dollar saving prices on up-to-the-minute building material of every kind, for every purpose are shown on its 176 pages.

H. B. MUNGER,
President.

Buy direct from us—**everything in Lumber, Roofing, Flooring, Doors, Windows, Mouldings, Hardware, Paint, Tinwork—All at Even LESS Than Wholesale Prices. You Can Actually Save From 33½ to 50 Per Cent.**



Economy Rubber Roofing

1 Ply, 35 Lbs.	\$1.10
Guaranteed 5 Years	
2 Ply, 45 Lbs.	\$1.35
Guaranteed 7 Years	
3 Ply, 55 Lbs.	\$1.60
Guaranteed 10 Years	

Rolls Contain 108 Sq. Feet



All kinds of building hardware. You can't beat our goods or our wholesale prices.



Glazed Windows

of all kinds ready for quick shipment.

2 light	- -	59c up
4 light	- -	64c up
12 light	- -	71c up

1 light	Stall Sash
2 light	29c
4 light	Barn Sash
8 light	41c



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Catalog and handsome illustrated Book of Modern Plans—shows floor plans, etc. Tells you how to save 33½ to 50% on all Building Material, Lumber, etc. Get these 2 big books at once—today.

Quality, safe delivery and satisfaction absolutely guaranteed.

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CATALOG No. 43. PLAN BOOK No. 53. Building Materials
House and Barn Plans

PETE SAYS

*I've worked on the job for this many a year,
but never have I had an oilstone to equal the*

CARBORUNDUM SHARPENING STONE



THERE are hundreds of carpenters who agree with Pete—it is simply a case of appreciating a stone that cuts free and clean without filling or getting "slick"—a stone that is positively uniform throughout—that cuts the edge on the tool—an edge that will stand up. If you take a pride in keeping your tools always in perfect condition you won't be without a Carborundum Sharpening Stone.

Carborundum Oblong Combination Stone No. 108,	\$1.25
Carborundum Round Combination Stone No. 107,	1.00
Quartered Oak Box Holder,	.50
Carborundum Pocket Stone in neat leather case,	.35

*At your hardware dealer
or direct*

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Niagara Falls, N. Y.

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When Writing Advertisers Please Mention the American Carpenter and Builder.

"30" when equipped with a full set of attachments. The machine "stripped" is a combination of five machines, viz: Band Saw, Jointer, Saw Table, Shaper and Borer, all of which can be operated at the same time. These are really complete machines in themselves, being operated independently of each other. This allows five men to work at one time. The only difference between this equipment and five single machines is that, in the Famous, five machines are combined on one frame while, in the ordinary manner, each machine has its own frame, which is no advantage but rather a drawback, as it necessitates additional floor space, pulleys, shafting, etc.

In addition to the five machines described above, extra equipment can be furnished which enables sixteen different kinds of work to be performed. The extra attachments can be fitted to the machine in an incredibly short time and give exactly the same effect and satisfaction as a machine built expressly for the purpose. Thus, for instance, a planing attachment, a sanding attachment (drum or disc), a hollow chisel mortising attachment, etc., can be fitted to the machine in a few minutes, and the work performed without any waste of time.

The frame is cast integral, not bolted which is the usual practice in universal woodworkers. This gives a rigidity and durability hitherto unequalled. In fact the whole machine is practically indestructible and is guaranteed by the builders for life. The Sidney Tool Company, Sidney, Ohio, who build this machine, will gladly send full information to interested persons.

How Do You Buy Your Sash Cord?

If you buy your sash cord by the hank, first estimating on just how many hanks are required for a certain job, it will probably interest you to know that lately there has been a



Effective Weatherproofing for SLIDING DOORS

Necessitates the specification and use of

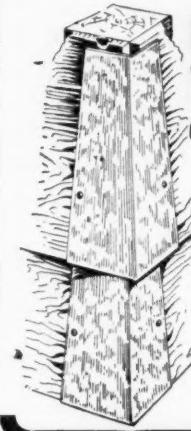
Schouler's Patent Weather Strip and Guide

Made of metal. Will not wear out. Simple to apply and an absolute protection against wind, rain, snow and dust.

Easy sliding insured. Send for catalog and further information.

Schouler Cement Construction Co.
144 Frelinghuysen Ave. NEWARK, N. J.

Metal Mitre Corners Save You Money and Time and



please your clients, too. By using my metal mitre building corners you do away with the time using work of cutting and fitting bevels. They will save you money and labor in finishing each corner.

My corners take the place of corner boards. They are made of No. 28 gauge galvanized sheet iron. Easy to put on. Last for years. Make a strong neat corner finish. Each piece is painted with a preparation, forming a thin film of gray oxide of zinc, to which paint is guaranteed to stick firmly.

Write NOW for circulars, prices and samples.
H. G. ROBBINS, Kewanna, Ind.



No. 212. A Design in Modern English

Ceilings in **Stamped Steel** for Public or Commercial buildings. Ceilings of modern refined designs for private residences. Tilings in **Steel**, for Bathrooms and Kitchens.

Half the labor of erecting a metal ceiling is strictly Carpenters' work, that is, the scaffolding and furring. Once started, they can finish it as well or better than anyone else. Secure our agency and push them.

Catalogue on request

Northrop, Coburn & Dodge Co.
No. 29 Cherry St. - NEW YORK

Good building implies that you use Certain-teed Roofing

It is the satisfactory work you do that brings you new business. So be just as particular in selecting the roofing as you are in buying materials or hiring men.

A good roof will give more satisfaction to the owner than almost any other part of the building.

Certain-teed Roofing in Rolls and Shingles

Quality Certified---Durability Guaranteed

There is a simple method of applying Certain-teed Roofing artistically on any kind of a building—it comes in red, green and slate gray shingles for bungalows, residences, summer houses and garages—in rolls for general use—and when laid according to the General's Specifications is rapidly replacing the old style Coal Tar and Gravel roofings on big factories, warehouses, apartment houses and sky scrapers.

Your building supply house will get our new \$1.00 book "Modern Ideas and Building Plans" for you F R E E—if you send to us the price is 25c.

General Roofing Mfg. Co.

York, Pa., E. St. Louis, Ill., Marseilles, Ill., San Francisco, Cal., Winnipeg, Can., Minneapolis, Minn., Hamburg, Germany, London, England.

General Roofing World's largest Mfrs. of roofings and building papers.



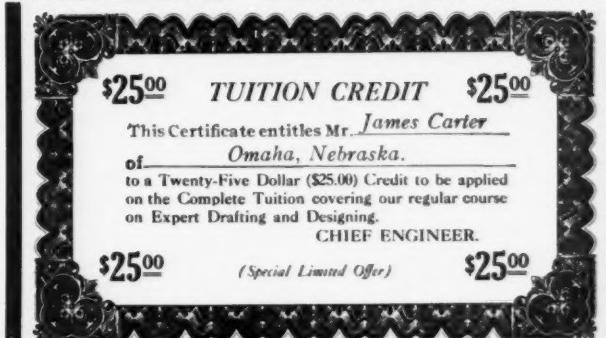
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This Certificate entitles Mr. James Carter
of Omaha, Nebraska,

to a Twenty-Five Dollar (\$25.00) Credit to be applied
on the Complete Tuition covering our regular course
on Expert Drafting and Designing.

CHIEF ENGINEER.

\$25⁰⁰ (Special Limited Offer) \$25⁰⁰

MORE TRAINED DRAFTSMEN ARE NEEDED ALL OVER THE COUNTRY. BIG SALARIES ARE PAID TO MEN WHO REALLY KNOW DRAFTING AND DESIGNING. WE ARE MAKING THIS GREAT SPECIAL OFFER TO AMBITIOUS MEN (YOUNG AND OLD) WHO WANT TO TAKE UP THIS WORK.

Learn to be an expert draftsman RIGHT IN YOUR OWN HOME. Keep your present position—just devote your spare moments to this work. Send the free coupon right away for free book and complete information.

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\$17.50 Set of

Drawing Instruments

F R E E !

If you write at once we will give you in addition to the free tuition credit a magnificent set of drawing instruments, valued at \$17.50. Handy size, leather bound pocket case. You can use this set of instruments for years—when you are occupying a position as expert draftsman at a good salary.

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Our course is prepared by men who have succeeded as expert draftsmen—who know just the training you must have in order to fill the best positions. You will receive "PERSONAL" attention.

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Hurry! Hurry! Don't pass up this exceptional opportunity. Be one of the men whose services are always in demand at a big salary. If you write at once you will receive this \$25.00 tuition credit FREE. Send the coupon for our free book and details of this great offer. No obligations—so send it immediately.

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Dear Sir: Without any obligations
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disposition to sell a larger sized cord than called for and, in order to make the weight look right, cut down the length.

This practice can inconvenience the builder through the fact that the cord may run short and in order to avoid this it is well to be absolutely certain in your buying of sash cord hanks that you secure the exact size and full length you require.

At the present time the Silver Lake Company of Boston, Mass., are calling attention to this fact in some of their advertising and especially stating that they guarantee all their Silver Lake sash cord to be accurate in size and full length.

This company's cord is exceptionally well known and has been used by builders for years. When the cord is used in residences the company guarantees that it will give service for twenty years. As an easy means of identification the company print the name Silver Lake on every foot of their cord.



Lansing Broncho Batch Mixer

The Lansing Company of Lansing, Michigan, are announcing what seems to be a great bargain in concrete mixers.

They have set aside 50 machines to go at just about half price. Their purpose is, of course, to introduce their batch mixer, the "Lansing Broncho," among carpenters and builders.

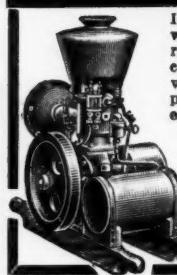
The Lansing Company has assumed a very important place in the concreting machinery field. This company was formerly the Lansing Wheelbarrow Company, whose goods have been on the market for years and whose reputation for square dealing and first class goods is second to none. Realizing the great demand among builders for practical labor saving machinery, the directors of this company have increased their working capital and facilities and are now prepared to fur-

nish concreting machinery and contractors' equipment of many kinds. Their leader now is this batch mixer.

The "Lansing Broncho" batch mixer has drum and frame of steel—regular locomotive steel built like a steam engine. Of course, this is not the right way to treat a mixer, but they say you can bang it with a sledge hammer; roll it over an embankment; or let your horses run away with it, and it will defy your efforts to break it. It might become dented, but owing to the steel construction it won't break. This is an important thing in concrete mixer, as they have to stand a good deal of punishment.

A brief specification of this mixer is as follows: Height 5½ feet; length 8 feet; width 4½ feet; diameter of drum 3 feet; length of drum 3 feet; capacity 5 to 7 cubic feet; inlet opening 20 inches; discharge opening 12 inches; loading hopper only 34 inches from ground; discharge 26 inches high (right

20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary ENGINE



It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no spickets—only three moving parts—portable—light weight—greater power—starts easily at 40 degrees below zero—complete, ready to run—children operate them—5-year ironclad guarantee—16 day money-back trial. Sizes 2 to 20 horsepower.

Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (184)

Detroit Motor Car Supply Co.
196 Canton Ave. - Detroit, Mich.



Paneling is More in Demand than Ever

Our Circassian Walnut Appeals to the Homebuilders—Contractors and Builders—Because it is Both Beautiful and Distinctive

¶ Paneling is being used more and more. It is popular with home owners and home builders for it gives a clean cut, attractive, substantial appearance to any room that is finished with it. Paneling is especially suitable for use in offices, stores, etc., and it is being used extensively in such work.

¶ Paneling offers you—Contractors and Builders—a big field among both new and old buildings. You can secure business through our Built-Up-Veneers. They give your work a certain standing. People see them—admire them—and want them.

¶ Paneling is not hard to install. It can be put into an old or re-modeling home, as easy as into a new building. And considering the added worth and effect paneling produces, it is not expensive.

¶ You can buy our Circassian Walnut Built-Up-Veneers at a really moderate figure. Our Circassian Walnut Built-Up-Veneers give a dandy effect, too.

¶ Note the accompanying reproduction of a Circassian Walnut Built-Up-Veneer. Note the distinctiveness of this panel—the perfect and pleasing effect.

¶ Our Built-Up-Veneers are made in many highly figured, also domestic and foreign solid effect woods. They are essentially different in their appearance and make-up than any other paneling manufactured. They represent quality all the way through. They are up-to-date in all respects.

¶ We are the largest manufacturers of paneling and Built-Up-Veneers. We can turn out paneling of almost any size desired up to 17 feet in length. Longer lengths are easily spliced.

¶ Send us your specifications and details and we will be pleased to quote and give you any information you may desire.



The F. Eggers Veneer Seating Co., TWO RIVERS, WISCONSIN

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Saws of Efficiency and Satisfaction Bear the Name

KEEN KUTTER

Made of best steel, properly filed and set. Perfectly balanced—will not “buck” and jump, but saw true and fast with little effort. Sold for over 45 years under this motto:

“The Recollection of Quality Remains Long After the Price is Forgotten”
Trade Mark Registered. —E.C.SIMMONS.



LET US GIVE YOU THIS TRANSPARENT CELLULOID TRIANGLE

It is 4 inch size, 30°+60° angles. Lowest retail price, 25 cents. Absolutely essential to everyone who draws. We make this offer to introduce our new catalogue showing

SPAULDING'S NEW CARRYING CASES AND COMPLETE OUTFITS

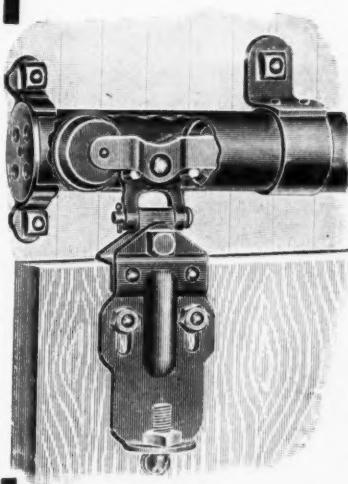
for carpenters, builders, designers, architects, engineers and students—compact, durable and convenient. Spaulding's Carrying Cases are made light and strong. They provide well arranged compartments, including space for drawing board and T square. Handled like a suit case; unique, practical, inexpensive. Outfits include all necessary equipment. If you draw, send us five 2-cents stamps today to pay postage and get the free triangle and the catalogue.

SPAULDING PRINT PAPER CO., 48 Federal Street, Boston



When Your Job Is To Be Inspected

Much depends on first impressions. If the door sticks or runs hard as it is opened, the first impression is bad.



No. 440 Cannon Ball Door Hangers

They make doors trouble-proof. Take care of swelling and shrinking. With a wrench they are instantly raised or lowered—set nearer or farther from the building.

We make perfect door hangers for every purpose. They always make good. Once you know their merit, you'll use them always. Write for catalog today.

Hunt, Helm, Ferris & Company, 6591 Hunt St.
Harvard, Illinois

(52)



How Are The BEAMS HELD Where They Abut Their Supports?

Send for catalog of other styles. An aluminum model free for the asking.

Lane Bros. Co.
Cherry St. - Poughkeepsie, N. Y.

The Door Hanger Manufacturers

Every House Using Ice



Needs this ice preparing cabinet of ice crackers and tools. It is “built in” as part of the kitchen equipment.

Any kind, amount or size of ice secured instantly without muss or waste.

It is being adopted wherever known. Too useful to omit. Too cheap to reject. Its absence will be as notable as its presence.

Write for our circulars and full particulars now.

Miller Manufacturing Company
Plymouth Building
Minneapolis Minn.



Is the Roofing FOR YOU

If you are interested in a roofing giving a warm, coppery red tile effect—more durable than shingles or metal, yet less expensive.

If architectural beauty, ease of laying, surety against leaks, extremely fire resisting and absolute permanency appeal to you, look no further for roofing—ZOLIUM is what you want.

ZOLIUM is backed up just as you want it to be. It will serve you well.

Send for sample and booklet A-C-1.

Flintkote Manufacturing Company
88 Pearl St. BOSTON, MASS.

wheelbarrow height); capacity 50 yards per day; weight 2200 pounds.

The Lansing Company have set aside 50 of these machines to go at about half price. Our readers should investigate this proposition, writing for complete description of the machine.

New Factory for Germantown Tool Works

The Germantown Tool Works of Philadelphia, recently took possession of their modern and complete, new, reinforced concrete factory building and they are now prepared to manufacture their regular line of Germantown tools, which comprises over 300 styles and sizes, in greater numbers and in less time than has heretofore marked their production.

This concern, established in 1857, has a reputation for producing nothing but tools of quality and every tool of their making is marketed under their own labels. They do not manufacture any trade name lines for jobbers.

Any hammer or hatchet stamped Germantown or Geo. Selsor may, if found defective in any particular, be exchanged by the dealer from whom it was purchased. Every tool bearing their label is closely inspected and severely tested before it leaves their factory.

Their "master builder" Adze eye nail hammer was the first hammer made which would pull a ten penny nail, head and all, through inch planking. This hammer is perfectly balanced, and forged from one piece of solid tool steel, as, in fact, are all of the Germantown hammers and hatchets.

Tool users can obtain from the Germantown works their big catalog fully describing and illustrating their complete line of manufacture, and this catalog can be used as a guide in the future ordering of any of their tools from your local dealer. For a copy of this catalog address the Germantown Tool Works, Philadelphia, Pa.

"The Shingle With The Taper"

This is the only Asphalt Shingle that is tapered—It clings close to the roof—Cannot warp or curl—Is almost everlasting.

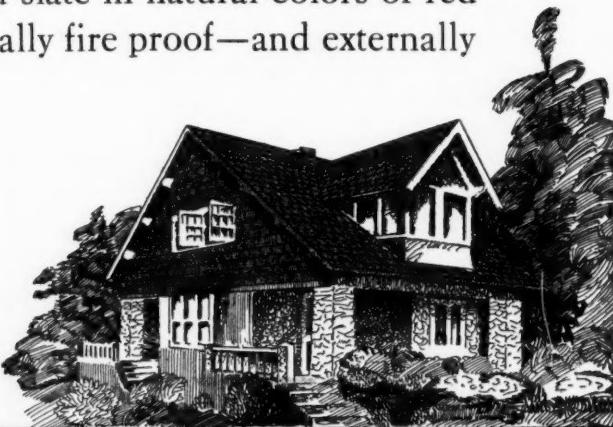
Winthrop Asphalt Shingles

Have an exposed surface of fine chipped slate in natural colors of red and green—They are very light—practically fire proof—and externally artistic in appearance.

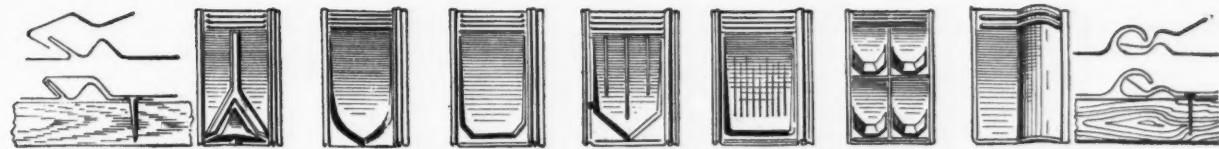
*Let us send you
a free sample*

WINTHROP ASPHALT SHINGLE COMPANY

8 Sixty-First Street
ARGO :: ILL



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WALTER'S SHINGLES THAT LAST

The Leaders for Twenty-nine Years

Made from I. C. full weight roofing tin, painted or galvanized after stamping. Rust-, storm- and fire-proof. The most complete line of metal shingles and tiles manufactured.

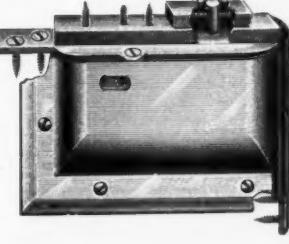
Agents wanted in every community

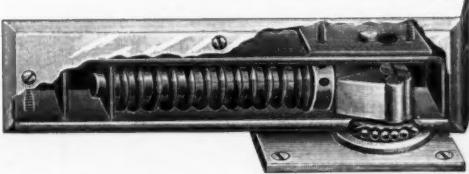
National Sheet Metal Roofing Co.
JERSEY CITY, N. J.

Your Hardware Dealer Can Tell You All About

The Shelby "CHIEF"

Double-Acting Door Check and Floor Hinge





Just the thing for the door between dining room and kitchen. Door opens easily, closes quietly without vibration and always closed when you want it. Every member of the household pleased with its action. Easily installed, no cutting in the floor or jamb. The hinge rests on the surface of the floor and carries the entire weight of the door on hardened ball-bearings.

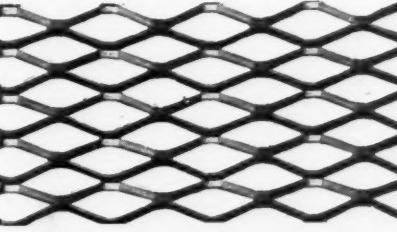
Check rests on top of the door and controls the closing speed. It is of the liquid type.

The Shelby Chief is fully guaranteed and the price is within reach of all.

Ask your dealer or us to tell you more about it.

THE SHELBY SPRING HINGE CO.
SHELBY, OHIO

METAL LATH



Sykes Expanded Cup Lath
FURNISHED WITH EITHER AN "Anti-Rust" Coating, Painted Black or Galvanized

WE ALSO MANUFACTURE

Sykes Trough Sheet Lath

WRITE US TODAY FOR PRICES AND SAMPLES

The Sykes Metal Lath & Roofing Co.
NILES, OHIO

High Grade Material-Low Grade Price
Satisfied Customers-More Profit for You

As a contractor and builder you are as directly and as vitally interested in the quality and price of lumber as are the people you build for.

You can satisfy your customers easier and more surely when you work up the high grade stock you get from us than if you have to contend with the inferior grades of the Line Yards.

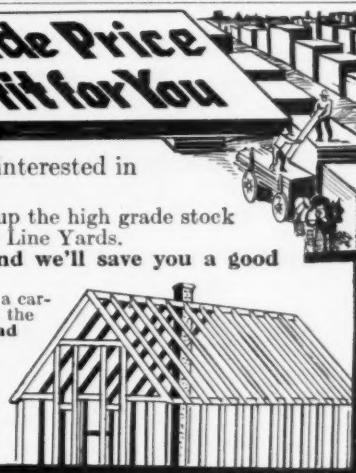
Your work is easier; you can put up a better building in less time—and we'll save you a good sum on your lumber.

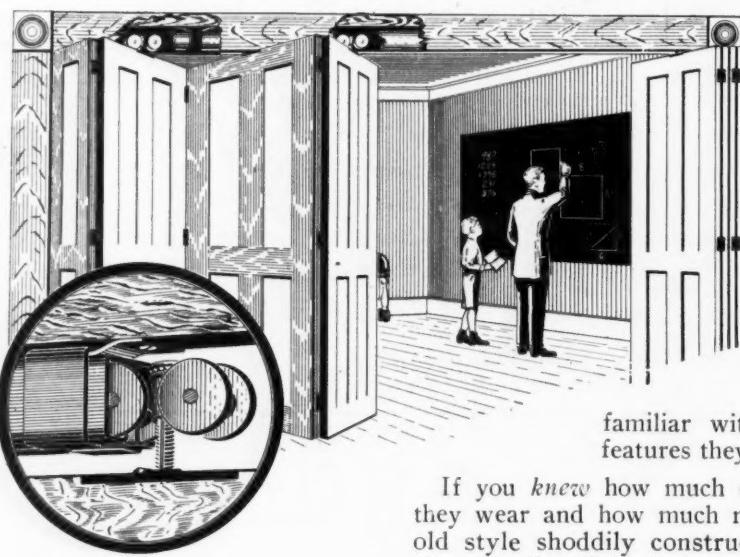
Write us for estimate on what you want. The next time you are in the market for a car load of lumber, come to Dubuque. We want to show you the largest and best stock in the Middle West—everything you need for a building:—and we will refund your railroad fare on a carload order.

Besides, we want to get acquainted with you. We have a special proposition to make that will interest you.

Better get in touch with us at once, as lumber is going up. Write today.

PETER J. SEIPPEL LUMBER CO., 212 South Locust Street
Dubuque, Iowa





No. 135 Ball Bearing Swivel Door Hanger

Made in four sizes for folding and sliding partition doors. Equipped with vertical adjustment and ball-bearing swivel pendants.

If you knew how much easier they operate, how much longer they wear and how much more satisfaction they render than the old style shoddily constructed kind that cause no end of trouble and dissatisfaction.

If your dealer is one of the very few who does not carry a line of R-W products, drop us a card and we'll gladly send you price list and very attractive catalogue listing "A Hanger for any door that slides." Yes, we'll go even further, and send you, if you wish, one Hanger as a sample free of charge.

Don't "think it over." Don't question our claims. Don't wait. Do it now—either call on your dealer or send for catalogue.

Richards-Wilcox

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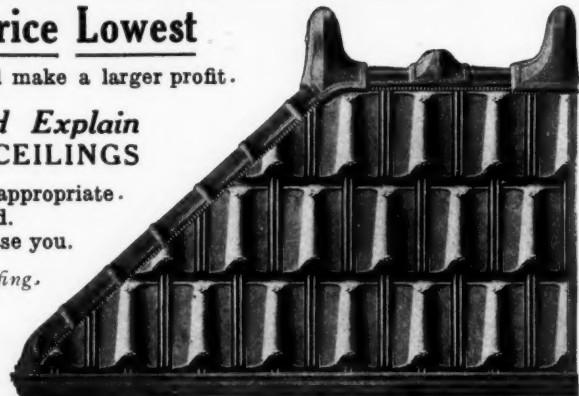
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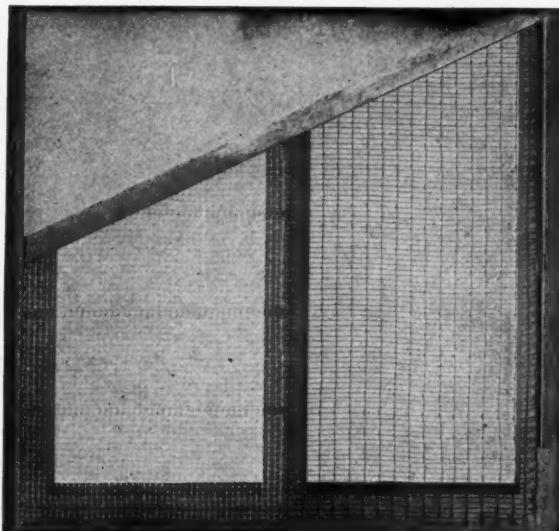
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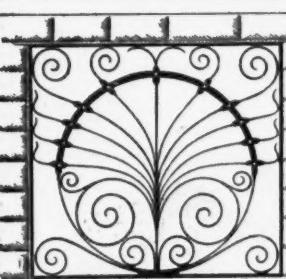
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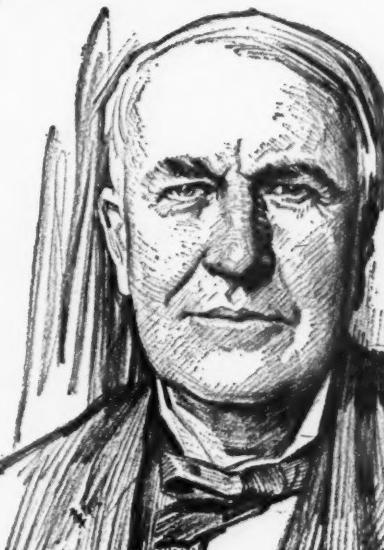


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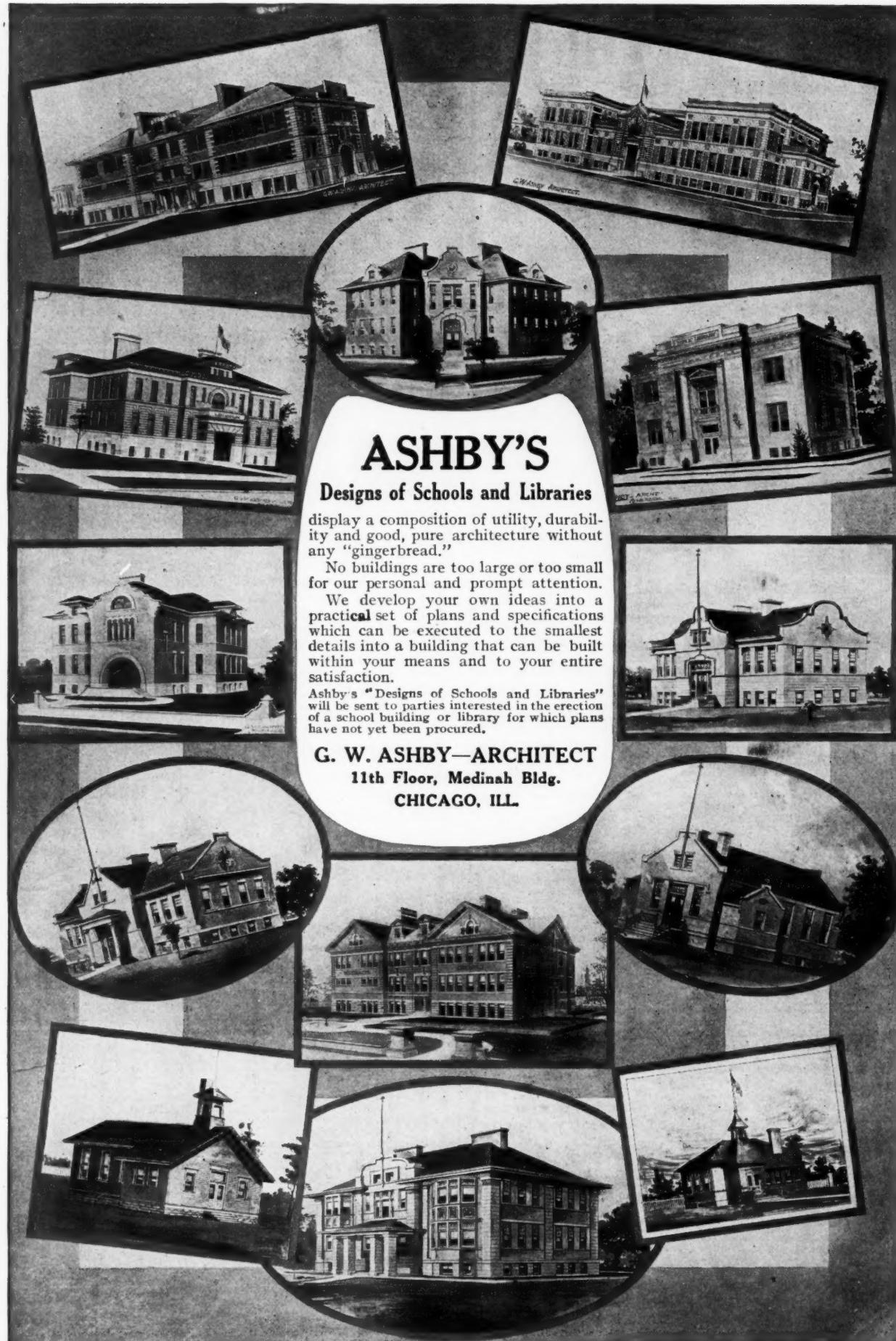
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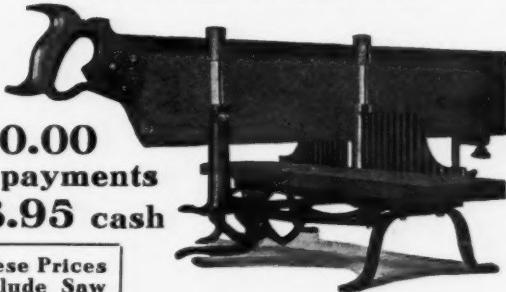


Outside dimensions.....	Length 31 1/4 in.	Height 14 in.	Width 6 in.
Inside dimensions.....	30 in.	12 3/4 in.	5 in.
Removable Tray, Inside....	29 1/4 in.	1 in.	4 1/4 in.
Weight empty, about 14 lbs. Weight with tools, 18 lbs.			

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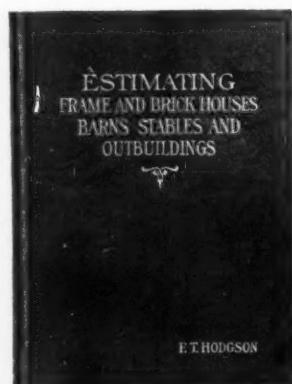
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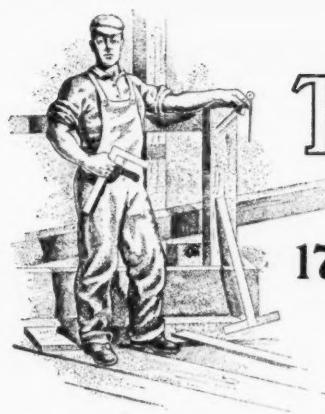
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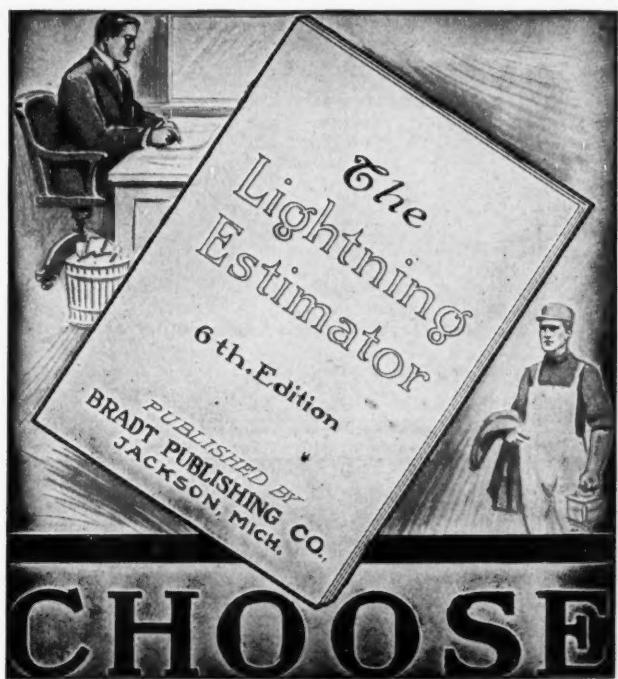
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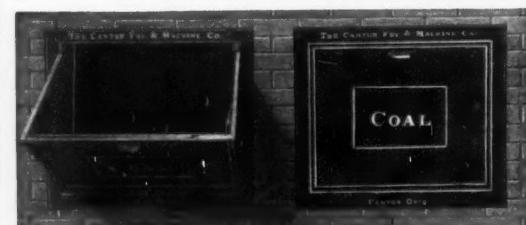
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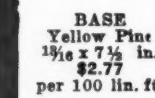
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Yellow Pine
1 1/2 x 7 1/2 in.
\$2.77
per 100 lin. ft.



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1 1/2 x 1 1/2 in.
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1 1/2 in., 30c
per 100 lin. ft.

The Canton Coal Chute

No building is up-to-date without a Coal Chute. They are necessary for sanitary reasons—for the time and labor they save—for looks and protection they afford.

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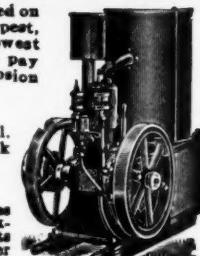
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Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing. No waste, no evaporation, no explosion from coal oil.

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HAVREBERG & ELVERUM, Contractors and Builders

Jackson, Minnesota, March 8, 1912.

HALL-HOLMES MFG. COMPANY, Jackson, Mich.

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HAVREBERG & ELVERUM (Signed.)

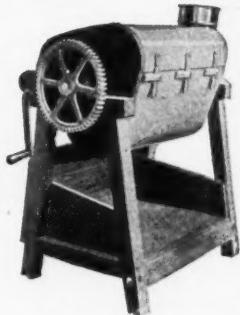
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Every Contractor who has had experience with any of our Baby Grand Machines will tell you they are the best mixers on the market. They are of the continuous type. They have a mechanical proportioning and feeding device. They eliminate guess-work and make mistakes impossible. No matter what kind of concrete work you do a Baby Grand Mixer can and will do better work and make more money for you.

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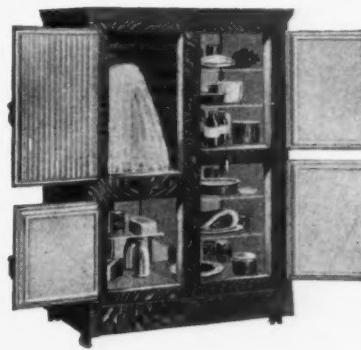
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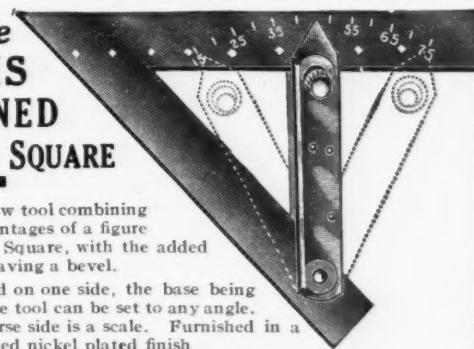
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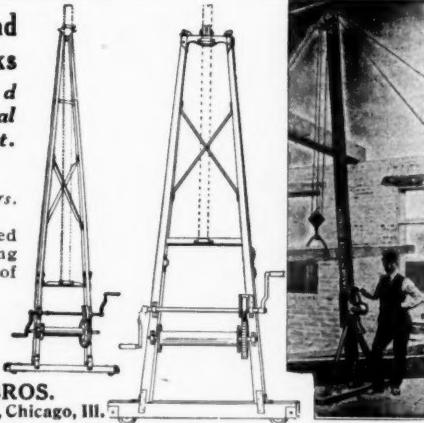
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*Sent on trial to
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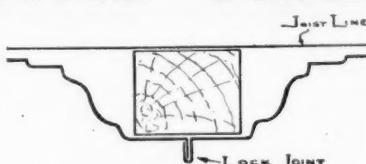
The Greatest Time and Labor Saver

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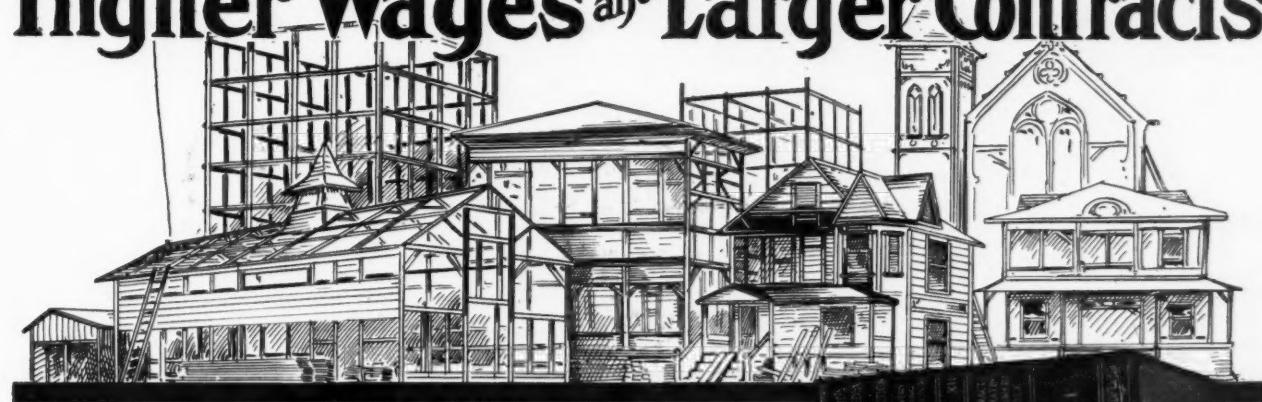
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Station C



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Mechanics, Electricians
and Plumbers agree on

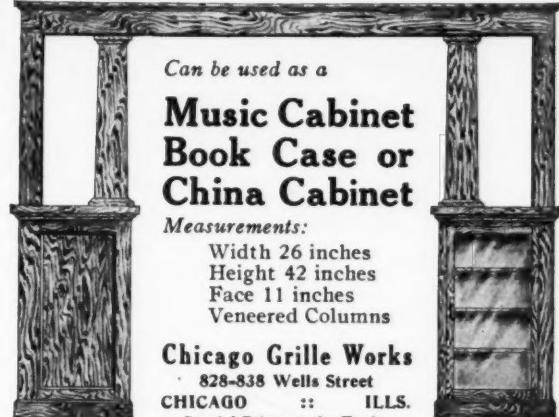
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Catalogue Dept. 5R

147-149 Cedar St. NEW YORK CITY
120 W. Lake St., CHICAGO



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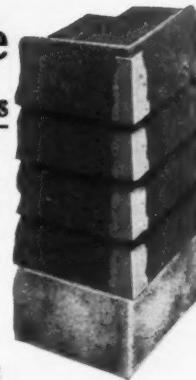
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Measurements:

Width 26 inches
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Why not equip the home or other building you are erecting with **Davis Acetylene Lighting?**

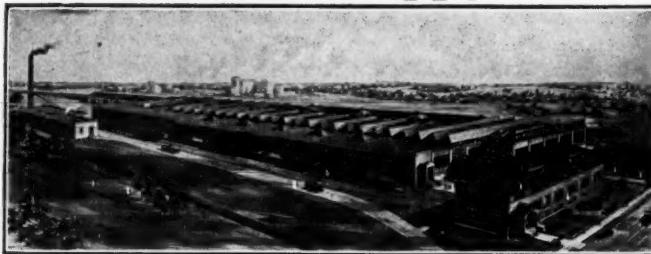
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of Its Kind**

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MILWAUKEE CORRUGATING COMPANY, MILWAUKEE, WIS.



TRUS-CON JOIST HANGERS

Made in all sizes and styles for use with brick or concrete block walls or with wooden or steel beams.

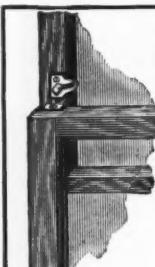
Avoid cutting away and weakening of timbers and walls—save labor, time and money.

Trus-Con Joist Hangers are made from open hearth steel plates, and are proven by actual test to be the strongest on the market. Note the bulb-shaped reinforcement at upper angle.

We also furnish Post Caps, Post Bases, Wall Plates and Base Plates made in rolled steel, malleable iron, or cast iron.

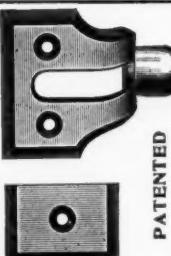
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TRUSSLED CONCRETE STEEL CO. :: 344 Trussed Concrete Bldg. :: Detroit, Mich.



The Ives Window Ventilating Lock.

**A Safeguard for Ventilating Rooms.
A Lock, quickly applied and operated.
Affording Sure Protection against Intruders.**

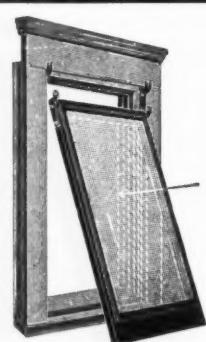


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—WRITE FOR DESCRIPTIVE CIRCULAR.—**

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NEW HAVEN, CONN., U. S. A.



Use these E. Z. Way Hangers in putting up screens, storm sash and basement windows. They are time savers and all owners want them on their buildings. Kindly note the E. Z. Way Hangers can be applied from the inside of the house, which is an advantage that no other hanger in the market has. We are also large manufacturers of Screen Mouldings and "Clincher" Felt Weather Strip. Be sure and specify the DENNIS quality if you want the kind that is MADE RIGHT.

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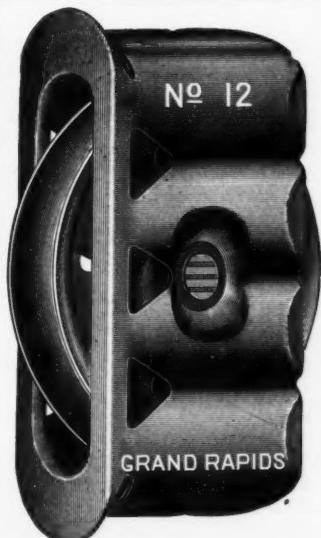
TUEC service includes scientific installation and proper location of risers and openings and makes unnecessary the use of long sections of hose.

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30 Hurford Street :: :: CANTON, OHIO

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"GRAND RAPIDS" ALL STEEL SASH PULLEYS

No Nails No Screws
Just Bore 4 Holes

The time saved by the
"Grand Rapids" will
actually pay for the
pulleys.

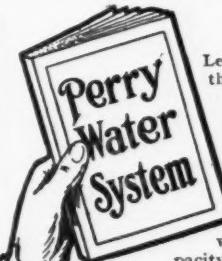
You can't afford to use
old style pulleys.

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Manufacturers
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This fasten-
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number of
screws or nails
could make it.
Saves about 15
per cent, too.
**SCREWS
COST MONEY**



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Learn all about the only system of water supply that eliminates the storage of water. That delivers water fresh from the well. The

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provides all the conveniences of a city water works system. It is designed for large or small capacity—is easy to install in any old or new building—operated by any kind of power—economical and practically indestructible. Has more advantages than any other system of water supply. Every reader of this publication should write for copy of our illustrated catalogue. Address

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Our products excel in Quality and Durability, because we concentrate our best efforts in their manufacture.

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PERFECT PATENTS obtained for \$25. No misleading offers, but conscientious work. Booklet free. HARRY PATTON, 355 McGill Bldg., Washington, D. C.

PATENTS THAT PROTECT AND PAY—Books free. Highest references; best results. Send sketch or model for free search. Watson E. Coleman, Patent Lawyer, 622 F St., Washington, D. C.

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FOR SALE—If you are a sober, industrious mechanic and want to better your condition and make a good living and live in a live, up-to-date town, thirty-seven miles from Chicago, I have for sale—cash and time—a one-story brick building with electric power, and machinery for general planing mill business. Two yards in town; lot of work can be gotten for miles around. Write E. A. BISHOP, Libertyville, Ill.

Miscellaneous

CEMENT FINISHING TOOLS, eighteen nickel plate, highest grade made, worth \$14.00; closing out price \$8.00. Catalogue. ERNEST BENNINGHOFEN, Hamilton, Ohio.

FREE—\$1.00 Self-Setting Plane Certificate and Pencil Free. See advertisement on page 14. Self-Setting Planes on trial. GAGE TOOL CO., Vineland, N. J.

ANGLE TRISECTION—Mathematical Achievement—The "Famous Problem" solved. Send \$1.00 and get both methods of trisection angles, mathematically. Reward of \$20.00 will be paid person successfully asserting methods defective. \$100.00 paid for accurate method of "angle trisection," previously. Angle Trisection, mathematically. Write C. W. TALBOT, Hanford, California.

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 BURLAPS AND CANVASES
 Recommended by Architects, Builders, Decorators, Owners.
 Illustrated Booklet and Samples on Application,
RICHTER MFG. CO. TENAFLY, N. J.

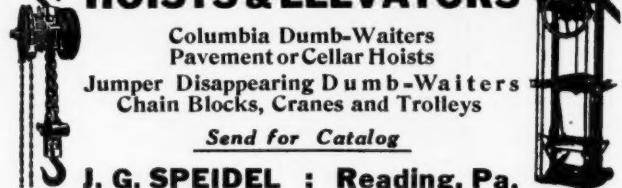
A UNIQUE TIME SAVER.

The Jackson Aluminum Line Level is a mighty small device, yet it brings about a tremendous saving of both time and labor. It takes the place of the old-fashioned sixteen foot straight edge, yet it can be carried in your vest pocket. No contractor, builder, carpenter, mason, bricklayer, architect or plasterer, etc. can afford to be without one. Just stretch your line and hang the level on it—it's positively accurate. The complete outfit is put up in a neat leatherette case and consists of the level with a 40-ft. line also a spring clamp for attaching the level to a steel square or pocket rule, thereby serving as a plumb rule or bench level. Ask your hardware dealer or send \$1.00 for the Level outfit complete post paid. Send for our Catalogue of Tools.

JOS. WOODWELL CO., Sole Agents
 201-203 Wood St., Pittsburgh, Pa.

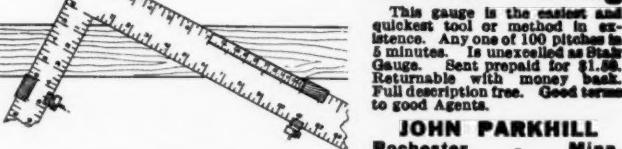
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ORDER TODAY and specify whether you want sharp or broad point. Postage stamps accepted. We can also furnish steel point, fitted for any Star Gauge, price 10c. Round pencils 5c. Liberal discounts on our Ten Specialties to the hardware trade. We manufacture the well-known Peerless line of scribers.

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The Introstile & Novelty Co., Marietta, Ohio

THE ZIMMERMAN IRON BASE

is the ONLY BASE having a CENTER BEARING.

It carries the required weight without allowing the corner supports to sink into the floor and prevents the base of column and floor from rotting.

See "SWEET'S" page 876.

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Show this wholly visible typewriter to your friends and let them see wherein it excels any \$100 Typewriter made, if we would send one to you Free of One Cent of Cost for you to keep forever as your own? Then on a postal card, or in a letter to us, simply say: Mail particulars.

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The Willis Self-Installing Skylights

From Our Factory Direct to You

and you don't need a soldering outfit to erect them. All Willis Skylights are constructed so they can be erected by any handy man with a hammer and screw driver. Guaranteed absolutely watertight without the use of putty. The ridge and gutter bars cannot sag, buckle or spread.

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Send for Catalogue No. 6, showing a full line of Sheet Metal Work.

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The Long-Life
WHITE ENAMEL



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without a cent deposit, prepay the freight and allow **10 DAYS FREE TRIAL** on every bicycle. IT ONLY COSTS one cent to learn our unheard of prices and marvelous offers on highest grade 1913 models.

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The Newest, Strongest and most Convenient Coal Chute made. Prices also Lowest. No modern residence complete without it. Looks itself when closed up. Can only be opened from inside. Architects, Contractors and Owners are invited to write for descriptive circular.

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Individual Motor Drive with ROTHMOTORS will Save Money.

Only the machines that are in actual operation consume power. Over 25 other advantages.

Let us act as your engineers. We will save you money.

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New York: 243 Canal St.



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SASH WEIGHTS, CORD, PULLEYS, POCKETS, ETC.

By Using

Automatic Sash Holders

Positive, Durable, Economical, Successful

Write for circular and prices.

AUTOMATIC SASH HOLDER MFG. CO., 52 Church St., New York

A SHINGLING HATCHET WITH POSITIVE GAUGE



CARPENTERS and BUILDERS

Here is a hatchet you can do some fast shingling with—No. 144 (oval head, 169 points.) Gauge is positive—it cannot slip. Clamps on with screw, gauge is readily changed. This hatchet is also made with flat head No. 44, 81 points, mailed. Price of either is \$1.75 prepaid.

We make a complete line—and the best—of Lathing Hatchets, from 64 to 225 points. Prices \$1.40 to \$1.75. You get your full money value in a Sayre Shingling or Lathing Hatchet. You can be positive of that. Find them at your dealers or sent direct.

L. A. SAYRE & SON
8 OLIVER ST. NEWARK, N. J.

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In Roofing Slate, Slate Blackboards

Structural and Plumbers' Slate

SATISFACTION GUARANTEED IN QUALITY AND PRICE

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Don't Ask the Dealer for Sash Cord. Ask for

"SILVER LAKE"

and see that he gives it to you. It is impossible to

SILVER LAKE A

substitute as our name is stamped on every foot of cord. Silver Lake Sash Cord is the Original Solid Braided Cotton Sash Cord, and has been the standard since 1868. No other is just as good.

GENUINE BANGOR

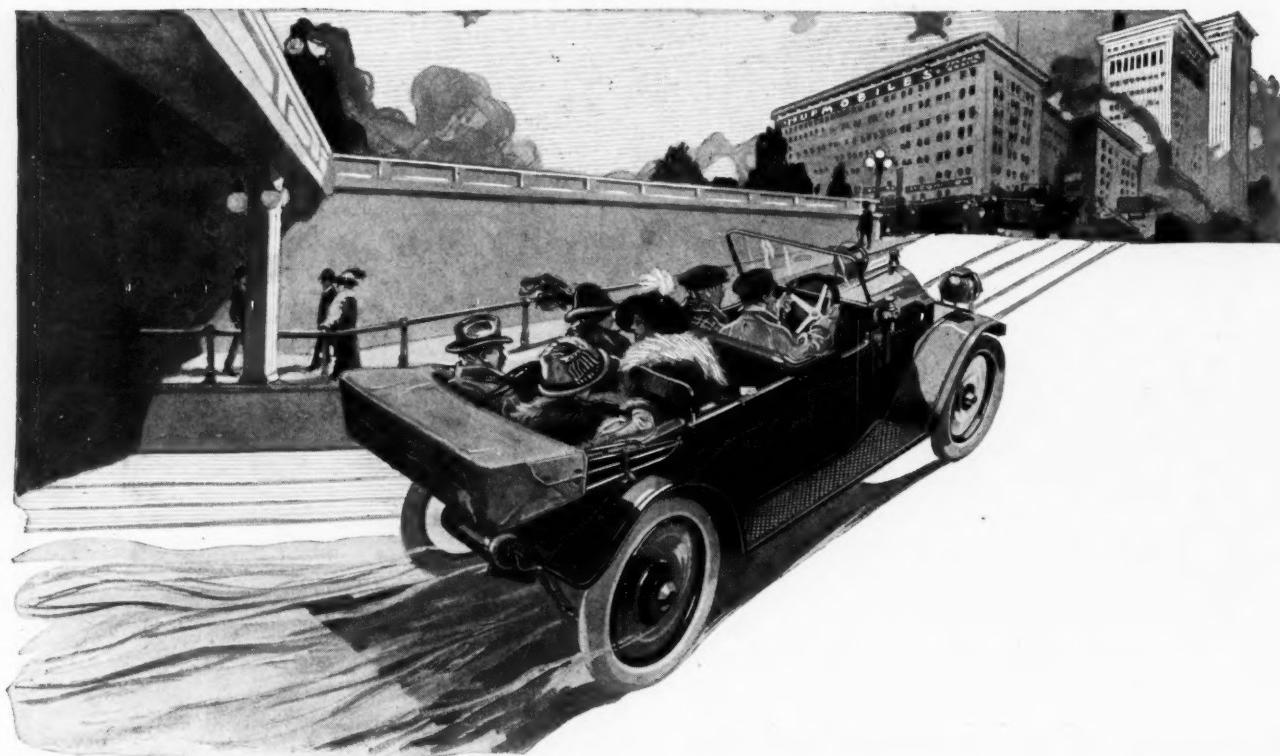
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EAST BANGOR CONSOLIDATED SLATE CO.

Roofing Slate
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East Bangor, Pa.

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A Six-Passenger Car for \$1175— And It's a *Hupmobile*

This new Hupmobile is the answer to thousands of queries which said:—

"Why don't you build a car to carry more people? Not a better car—we don't see how it could be better—but a bigger one."

Just as the original "20" touring car grew out of the runabout and was developed into the splendid "32" of today—

So has the six-passenger Hupmobile grown out of the "32".

The same beautiful lines that distinguish the "32" in any gathering of cars.

The same powerful, silent, long-stroke motor; the same sturdy axles, transmission and clutch—for these were always built fit for duty in a heavy seven-passenger car.

With heavier springs and frame of course; and other parts proportionately strengthened where need be.

With a body that accommodates six in ease and comfort.

During the last year we have made you familiar with the Hupmobile's mechanical excellence.

But we want to say again, with renewed emphasis—we believe the Hupmobile to be, in its class, the best car in the world.

Your Hupmobile dealer has the new car

The six-passenger "32," \$1,175 F. O. B. Detroit, has equipment of two folding and revolving occasional seats in tonneau, tonneau foot rest; windshield; mohair top with envelope, Jiffy curtains, quick detachable rims, rear shock absorber, gas headlights, Prest-o-Lite tank, oil lamps, tools and horn. Three speeds forward and reverse, sliding gears. Four cylinder motor, 3½-inch bore and 5½-inch stroke; 126-inch wheelbase; 33x4-inch tires. Standard color, black. Trimmings, black and nickel.

"32" Touring Car, fully equipped,	\$975 F. O. B. Detroit
"32" Roadster, fully equipped,	\$975 F. O. B. Detroit
"32" Delivery, fully equipped,	\$950 F. O. B. Detroit
"20" Runabout, fully equipped,	\$750 F. O. B. Detroit

Hupp Motor Car Company, 1255 Milwaukee Avenue, DETROIT, MICH.

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INDEX TO ADVERTISEMENTS, JANUARY, 1913

Page	Page	Page
American Bell & Foundry Co. 148	Gage Tool Co. 18-158	Northwestern Compo-Board Co. 129
American Floor Surfacing Machine Co. 4	General Roofing Mfg. Co. 135	Northwestern Expanded Metal Co. 132
American Pulley Co. 22	Germantown Tool Works. 113	Oak Flooring Bureau. 151
American Saw Mill Machinery Co. 126	Gibbons, M. J. 125	Orr & Lockett Co. 32
American School of Correspondence. 141	Gilbert & Bennett Mfg. Co. 88	Oshkosh Mfg. Co. 3
American Sheet & Tin Plate Co. 112	Gildon Varnish Co. 99	
American Veneer Co. 157	Goodell Mfg. Co. 18	Parker, C. L. 158
Andrews Heating Co. 96-97	Goodell-Pratt Co. 20	Parkhill, Joh. 158
Arkansas Soft Pine Mfrs. Assn. 105	Good Housekeeping Magazine. 108	Parks Ball Be. Machine Co. 8
Art Stone Co. 30	Gordon Van Tine Co. 85	Patton, Harry. 158
Artificial Marble Supply & Equipment Co. 151	Grand Rapids Hardware Co. 157	Pearson Mfg. Co. 23
Ashby, Geo. W. 142	Grand Rapids Plaster Co. 104	Peck, Stow & Wilco. 92
Atha Tool Co. 23	Grimm Mfg. Co. 8	Peck, Williamson C. JR. 131
Atkins & Co., E. C. 2		Peerless Brick Machl. 28
Automatic Sash Holder Mfg. Co. 159	Hall-Holmes Mfg. Co. 149	Pettyjohn Co., The. 158
Barnes Co., W. F. & Jno. 8	Hartman Sanders Co. 156	Phoenix Sliding Blind Co. 152
Beach Mfg. Co. 12	Haven Mfg. Co., The. 4	Plasteron Wallboard Co. 121
Beaver Co. 121	Heald Machine Co. 17	Porter Machinery Co., C. 155
Beckman Co., The L. 15	Helm Brick Machine Co. 115	Potter Bros. 158
Benninghofen, Ernest A. 158	Heppes Co. 119-128	Pratt & Lambert Co. 159
Berger Mfg. Co. 150	Hess Warming & Ventilating Co. 31-131	Prentiss Vise Co. 12
Berry Bros. 101	Hewitt-Lea-Funk Co. 120	Progressive Mfg. Co. 25
Bestwall Mfg. Co. 90	Holland Furnace Co. 117	Pruden & Co., C. D. 155
Bird & Son, F. W. 121	Hoover Suction Sweeper Co. 5	Prybil, P. 8
Bishop & Co., Geo. H. 25	Hower, J. K. 159	
Bishop, E. A. 158	Huber Builders Material Co. 148	Radford Architectural Co. 153-154
Blystone Machinery Co. 27	Hunt, Helm, Ferris & Co. 137	Rehm Hardware Co. 151
Bommer Bros. 34	Hupp Motor Car Co. 160	Richards Wilcox Mfg. Co. 140
Bovée Grinder & Furnace Co. 148	Hurley Machine Co. 5	Richter Mfg. Co. 158
Boyle Co., John. 30	Huther Bros. Saw Mfg. Co. 18	Rixson & Co., Oscar C. 19
Brad Publishing Co. 147		Robbins, H. G. 134
Brilliant Gas Lamp Co. 143	Jahant Heating Co. 150	Roberts Mfg. Co. 121
Brooke Iron Co., E. & G. 23	James Mfg. Co. 124	Robinson & Co., M. W. 151
Brooklyn Metal Ceiling Co. 19	Jennings & Co., C. E. 143	Robinson Bath Tub Co. 94
Buck Bros. 24	Johns-Manville Co., H. W. 100-122	Rodgers & Co., R. M. 14
Buffalo Wire Works Co. 141	Johnson, E. J. 25	Roth Bros. 159
Cabot, Samuel 34	Johnson & Sons Co., S. C. 110-111	Royal Ventilator Co. 14
Caldwell Mfg. Co. 24	Johnston Paint Co., The R. F. 143	Russell Jennings Mfg. Co. 21
Campbell Heating Co. 116		
Canton Art Metal Co. 129	Kanneberg Roofing & Ceiling Co. 127	Samson Cordage Works. 12
Canton Foundry & Machine Co. 141	Karol, B. B. 31	Sand & Sons, J. 140
Canton Metal Ceiling Co., The. 140	Keasbey & Mattison Co. 127	Sargent & Co. 123
Carborundum Co. 134	Kees Mfg. Co., F. D. 155	Sasgen Bros. 152
Central Mantel Co. 31	Keighley Metal Ceiling Co., S. 152	Sayre & Son, L. A. 159
C. H. & E. Mfg. Co. 9	Kepplinger, G. J. 4	Schlueter, M. L. 6
Champion Safety Lock Co. 19	Kewanee Boiler Co. 130	Schouler Cement Construction Co. 134
Cheny & Son, S. 158	Kissel Motor Car Co. 102	Schwab & Sons Co., R. L. 131
Chicago Grille Works 155	Knickerbocker Co., The. 29	Sedgwick Machine Works 14
Chicago Machinery Exchange 9	Kotesch & Co. 15	Seippel Lumber Co., Peter J. 139
Chicago Millwork Supply Co. 133	Lane Bros. Co. 137	Seneca Falls Mfg. Co. 12
Chicago Spring Butt Co. 34	Lansing Co. 149	Sexton. 163
Chicago Technical College. 147	LaPlant Tool Co. 119	Shelby Spring Hinge Co. 139
Chief Draftsman 86-87	Lorenzen & Co., Chas. F. 31	Sheldon & Co., E. H. 12
Chief Engineer 135	Lorenz Trunk Works, Wm. 118	Schultz, C. H. 159
Cincinnati Fly Screen Co. 6	Lufkin Rule Co. 18	Sidney Elevator Mfg. Co. 14
Cincinnati Tool Co. 20	Luther Grinder Mfg. Co. 23	Sidney Tool Co. 10-11
Clow & Sons, Jas. B. 89		Silver Lake Co. 159
Coleman, Watson E. 158		Simmons Hardware Co. 137
Combination Door Co. 95		Slatington Slate Co. 14
Corbin, F. & F. 93		Smith & Hemenway Co. 17
Cortright Metal Roofing Co. 98		Smith Co., The T. L. 27
Crescent Brass & Pin Co. 22		Southern Cypress Mfrs. Assn. 109
Crescent Machine Co. 13		Spaulding Print Paper Co. 137
Crosby, Frank & Co. 150		Spiedel, J. G. 158
Crown Tool Mfg. Co. 143		Standard Scale & Supply Co. 27
Dahl Mfg. Co. 19	McCrory Refrigerator Co. 151	Stanley Rule & Level Co. 22
Davis Acetylene Co. 155	McIntyre, W. H. 24	Stanley Works, The. 123
Deco Mfg. Co. 129	Maacks Academy of Architecture. 158	Star Expansion Bolt Co. 155
Dennis & Co., W. J. 156	Mack & Co. 150	Starrett & Co., L. S. 15
Detroit Engine Works 148	Mack Iron & Wire Works. 141	Swan Co., Jas. 20
Detroit Motor Car Supply Co. 136	Majestic Furnace & Foundry Co. 125	Sykes Metal Lath & Rfg. Co. 139
Detroit Show Case Co. 17	Marsh, H. C. 34	
Didrickson, H. P. 4	Mastic Wall Board Rfg. Mfg. Co. 162	Talbot, C. W. 158
Dissston & Sons Co., Henry. 152	Mayhew, H. H. 24	Tanne newitz Works, The. 8
Dixon Crucible Co., Jos. 143	Mead Cycle Co. 159	Taylor Mfg. Co., Jas. L. 17
Double Claw Hammer Co. 123	Merchant & Evans Co. 147	Topp & Co., G. A. 19
Dow Wire & Iron Works. 141	Metal Shelter Co. 124	Triple A. Machine Co. 7
Dunn & Co., W. E. 148	Miles Mfg. Co., P. B. 26	Trussed Concrete Steel Co. 156
East Bangor Consolidated Slate Co. 159	Miller Mfg. Co. 137	
Eastern Granite Roofing Co. 127	Millers Falls Co. 18	United Electric Co. 157
Edwards Mfg. Co. 30	Miller Mfg. Co., A. W. 152	United Machinery Co. 12
Eggers Veneer Seating Co., The F. 136	Milwaukee Corrugating Co. 156	United Pump & Power Co. 157
Emerson Typewriter Co. 158	Miotke, Jos. 4	
Eureka Machine Co. 154	Monarch Mfg. Co. 6	Van Guilder Hollow Wall Co. 28
Fairbanks, Morse & Co. 133	Montross Metal Shingle Co. 127	Weber Mfg. Co. 5
Fay & Egan Co., J. A. 8	Moorman & Otten Co. 31	White Co., David 15
Flintkote Mfg. Co. 158	Morrill, Chas. 34	White Co., The. 103
Ford Auger Bit Co. 133	Mullins Co., The W. H. 28	Wilkinson & Co., A. J. 150
Foulk, Jones & Sons. 30	Myers & Bros., F. E. 14	Willis Mfg. Co. 159
Fox Machine Co. 6	National Mfg. Co. 164	Winthrop Asphalt Shingle Co. 133
Fox Supply Co. 5	National Sheet Metal Roofing Co. 139	Wolff Mfg. Co., L. 125
Frost & Adams Co. 15	North Bros. Mfg. Co. 21	Woodwell Co., Jos. 158
	Northern Hemlock & Hardwood Mfrs. Assn. 91	Worcester Mfg. Co. 24
	Northfield Iron Co. 26	
	Northrup, Coburn & Dodge Co. 135	

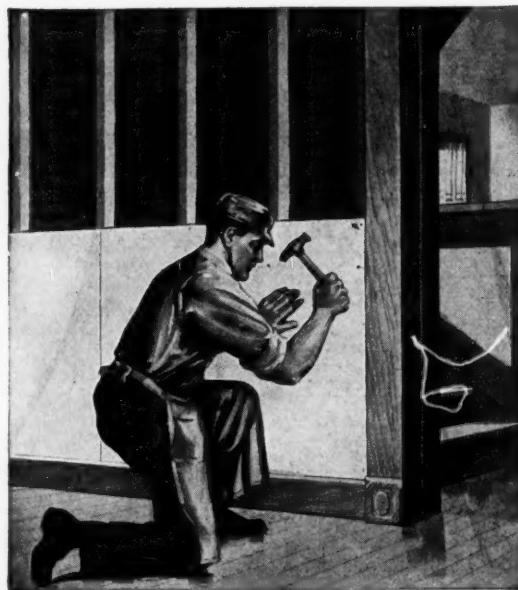
NOTICE TO ADVERTISERS

Forms for the February number of the American Carpenter and Builder will close promptly on January 20. New copy, changes and orders for omissions of advertisements must reach our business office, 178 West Jackson Boulevard, Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN CARPENTER & BUILDER CO.

Why "Bishopric" Beats Plaster

"Bishopric" is the *only* wall board made with *reinforcing*. It is the *lath* which makes wall board *stiff*. It makes a solid, enduring surface that *stays smooth*.

The "Bishopric" System of building walls and ceilings saves time and needless expense, and gives a beauty and permanence which is lacking when the old plastering methods are used. Home-owners everywhere are delighted with "Bishopric" interior—the finer the home or bungalow, the better the owner is pleased. (Bishopric Wall Board comes in sheets, ready for use. Goes on dry. Is easy to apply. Just nail Bishopric Board to bare studding and walls are ready at once for any kind of decoration. Anyone who can drive nails can apply it.



Easy to Apply

Costs 50% Less to Apply —No "Cold Weather" Delays

You cut the cost of walls and ceilings in half when you use the "Bishopric" System. Saves a month's time in building. Is ideal for new buildings or for remodeling. You can build right through the winter by the "Bish-

opric" System. There are no delays for zero weather—no dampness, no waiting for plaster to dry. You can cover a room with Bishopric Board and have it ready for the decorators the same day.

BISHOPRIC WALL BOARD

Stays Stiff—Can't Warp

Bishopric Wall Board is made of toughened Asphalt-Mastic, kiln-dried dressed lath, and heavy sized fibre-board. The lath are imbedded in the Asphalt-Mastic under terrific pressure and the heavy sized fibre board is pressed over the surface. Asphalt-Mastic is a non-

burnable material. The lath make it non-warping and rigid. This ready-for-use material makes walls and ceilings that are moisture-proof, sound-proof, rat-proof and fire-resisting. They last as long as the building.

\$5,000 Anti-Warp Bond

Bishopric Wall Board will not warp, buckle, crack or pull loose in any climate, winter or summer. This claim is backed by a \$5,000 Anti-Warp Bond. Every purchaser is protected by this bond.



Makes Artistic Interiors

Users Are Delighted

Mastic Wall Board & Roofing Mfg. Co. Dear Sirs:—Enclosed please find remittance for 1,536 square feet of Bishopric Wall Board. Ship at once if possible. The other we got from you we have on two rooms and it looks fine.—Frank Havenstrite, Moscow, Pa.

\$2.50 per 100 Square Feet

You get Bishopric Wall Board in sheets, ready for use. Sheets are 4 feet square. Prices, \$2.50 for 100 square feet; \$6.40 per crate of 16 sheets, 256 square feet.

Write for Big Book, Samples and House Plan

Send for Bishopric Book in colors, Big Sample of non-warping, fire-resistant Wall Board and working architectural Blue Print Plans for Model House. Shows how builders, contractors and carpenters can do better jobs at half plastering cost. Enclose 6c in stamps for packing and mailing.

WRITE TODAY.



Free Sample

DEALERS!

Write for Great Exclusive
Agency Proposition

uary

"A REAL BATCH MIXER"

WITH POWER \$100⁰⁰ COMPLETE WITH TRUCKS

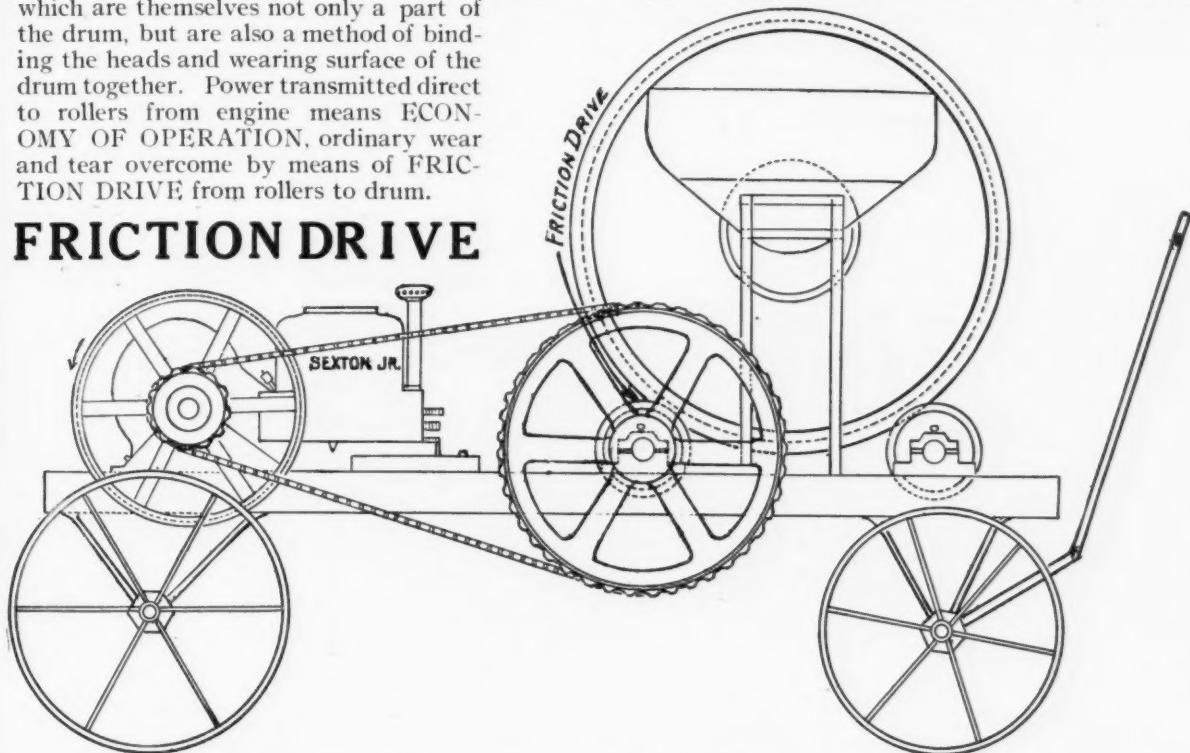
Capacity 35 to 50 cu. yds. daily

Rather than picture below a retouched photograph of the "SEXTON JR." mixer we have had a line drawing produced for your special benefit, that you might go into the details of construction of this machine. We want you to note its ABSOLUTE SIMPLICITY, its lack of intricate parts, absence of gears or sprockets surrounding the drum.

IT SIMPLY CAN'T GET OUT OF ORDER—WHY?

For the simple reason that we have less wearing parts than any other mixer made. We eliminate heavy, cumbersome gears and trackers we maintain a perfect alignment of rollers to machined tracks, which are themselves not only a part of the drum, but are also a method of binding the heads and wearing surface of the drum together. Power transmitted direct to rollers from engine means ECONOMY OF OPERATION, ordinary wear and tear overcome by means of FRICTION DRIVE from rollers to drum.

FRICTION DRIVE



The Sexton Junior Batch Mixer

SPECIFICATIONS

Drum 32" Diameter.
Drum 38" Wide.
Heads 12 Ga. Steel.
Wearing Surface 12 Ga. Steel.
3"x6" Oak Sills.
Rollers Flanged 7"x2"
Shafts 1½" Cold Rolled Steel.
Truck Wheels 3" Face.

Capacity per batch	Cement	1 Cu. Ft.
" "	Sand	1½ "
" "	Stone	2½ "
Total Unmixed Batch.	4½ "	"
Total Mixed Batch.	3 "	"
Maximum Capacity	10 Hrs. 50 Cu. Yds.	
Equipped with "SEXTON JR." Engine specially		
designed for heavy, continuous service. FULLY		
GUARANTEED.		

Gentlemen:

Please
send me your
catalog describing
the above mixer.

For Further Information Write

SEXTON

404 Watkins Building

MILWAUKEE, WIS.

Send This In To-Day Sure
Stat.....

P. O.

Street

Name

When Writing Advertisers Please Mention the American Carpenter and Builder.

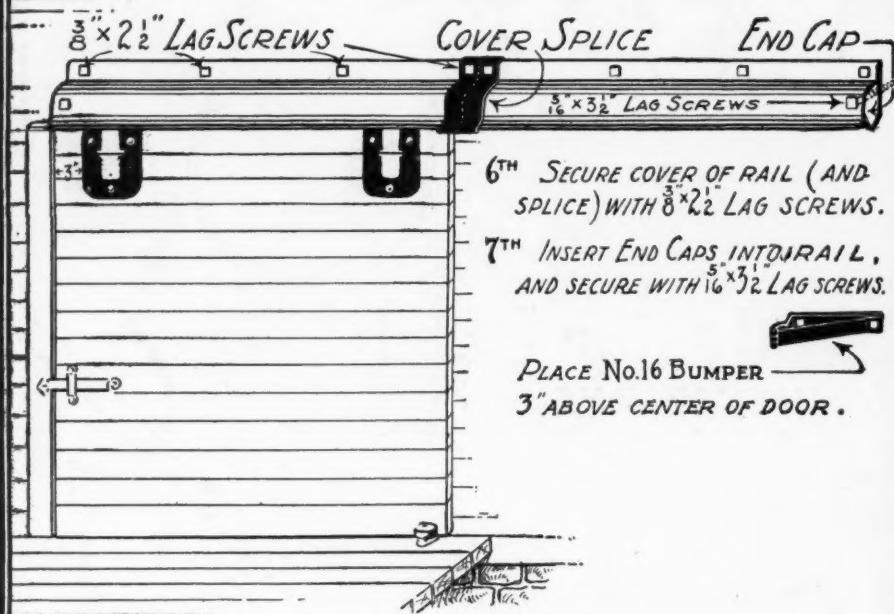
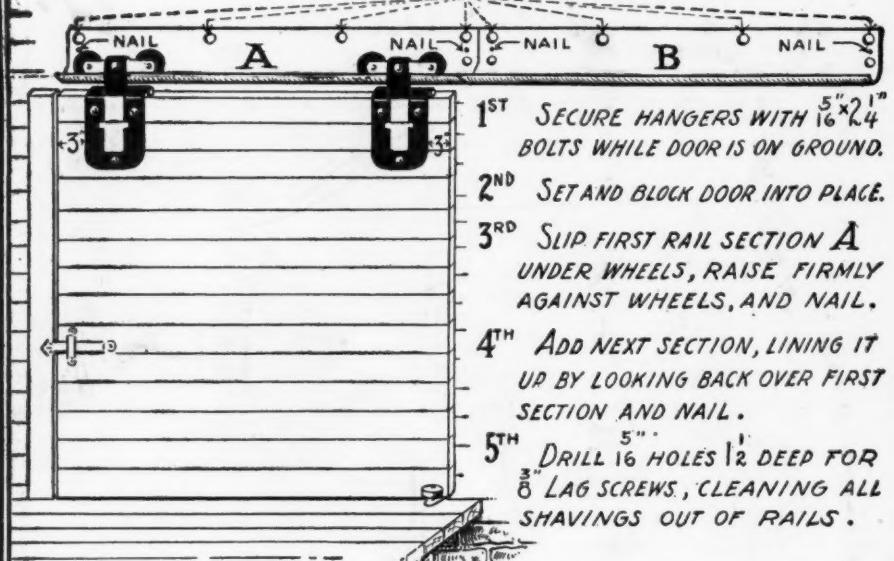
That you may fully understand and appreciate the labor-saving features of the

Storm Proof Hangers and Rail

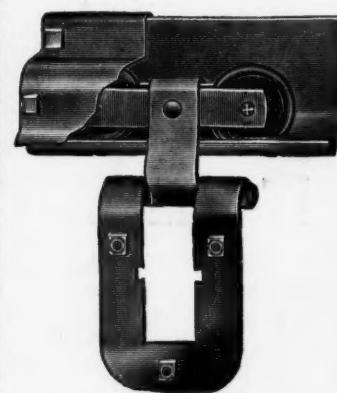
you will find below a reprint of the direction card packed with each pair. Study it a moment. The operations described will interest you.

Directions for hanging door with "77" STORM PROOF

DRILL 16 HOLES $\frac{1}{2}$ " DEEP



NATIONAL MFG. CO.,
STERLING, ILL.



No. 77 FLEXIBLE

Interesting features:

Two wheels in tandem.

Roller Bearings.

Galvanized rivets and axles.

Equalizing pin in center automatically distributes equal load to each wheel.

Cover can be removed to paint inside of rail when necessary.

Rail requires no brackets or housing—it's storm proof.

Send for our general catalog and give dealer's name. Now.

National Mfg. Co.
STERLING, ILL.